

# THE MEDICAL JOURNAL OF AUSTRALIA

VOL. II.—15TH YEAR. SYDNEY, SATURDAY, NOVEMBER 10, 1928.

No. 19.

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THE HISTORY OF SPECTACLES.<sup>1</sup>

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THE inquiry into the history of spectacles can only apply to the people of the western world, not to those of the Far East, because it is possible that the Chinese were in advance of us in this, as in many other things. We know that they had already reached a very high state of civilization in the early history of the world and they may have used glasses long before we heard of them. In 1817 Ferrario figured a group of Chinese in which a man is shown wearing glasses connected by a bridge and held in position by a string tied behind the ears (see Figure 1A).



FIGURE 1A.  
After Ferrario, 1817.



FIGURE 1B.  
From Davis, "The Chinese,"  
1836.

Examples of the method of wearing glasses (both Chinese).

A similar picture is presented by Davis, in which a Chinaman is depicted wearing glasses held in position by weighted cords which hang over the ears (see Figure 1B). Other travellers at that time relate that glasses were widely worn in China, the large round discs of which were made from a brownish stone which the Chinese call "tea" stone, because it resembles an infusion of tea in colour. Among the drawings of a Chinese artist, a female native is depicted wearing large round mounted glasses secured with a string which goes behind the ears, and attached to the bridge is a piece of bent wire having a spread-out end resting on the forehead, which serves as a support (see Figure II).

Two French writers have recently stated that when Marco Polo penetrated China in 1270 the inhabitants were wearing *lunettes*. Horner says that the only people of antiquity who may have used spectacles, are the Chinese and Pansier, too, thinks this possible; but neither presents any evidence in support of his statement. Inquiries on the part of others show that there is no trace of evidence that the Chinese used glasses in the Middle Ages. As far as can be ascertained, there is nothing in the writings of the ancient Jews showing that they had a knowledge of spectacles. We can say with certainty that the Greeks and Romans of antiquity knew nothing about them; that is of lenses with long focus, nor have excavations revealed anything

of the kind. The great European collections contain nothing like our spectacles, but various references are made to convex lenses made of glass or rock crystal, which have been found in different places, such as Nola, Mayence, Pompeii, Nineveh and in England. These were not used as spectacles, as they have too short a focus and we can only conjecture their use; perhaps they served as magnifying and burning glasses.

Pliny and Seneca in places refer to the magnifying effect of a glass ball filled with water, by the aid of which the old cordwainers worked. In this case the ancients attributed the magnifying effect of the ball to the water and not to the curved surface of the ball and recognized the fact that with the help of such a device they were able to decipher small or indistinct writing.

There is ample evidence to show that biconvex lenses were used as burning glasses. Pliny tells us that glass balls filled with water were used by physicians for burning and were to be bought from medicine dealers and perhaps formed part of the armamentarium of the practitioner. What astonished them most in those days was that, in spite of the ball being full of cold water, it burnt.

The fact that Nero used an emerald when watching the gladiatorial contests would apparently end the contention that the ancients knew nothing of glasses. Tradition and narrative of varying origin have spread this belief widely. The ancients were well acquainted with short sight, but there is no allusion to a concave glass. Neither is there any indication of the manner in which Nero's emerald was ground nor of the manner in which it was used; whether he looked through it or at it. It would be



FIGURE II.  
Ancient form of glasses worn by the Chinese.

useful and of some importance to learn something of the size of this stone which must have been considerable, and in so far as was exceptional; for at that time, though emeralds were plentiful in Rome (obtained from the Ural Mountains), they were

<sup>1</sup> Read at a meeting of the Section of Medical Literature and History of the New South Wales Branch of the British Medical Association on April 24, 1928.

mostly small, so it is not unlikely that Nero used the emerald otherwise than as a lens to aid his vision. We must find some other reason for its use which was probably that among the ancients the emerald had the reputation of being a means of strengthening the eye; for stonecutters were recommended to lay the stone they were cutting on an emerald or near it. It had been known from early times that a green colour had an agreeable effect on the eye and the Emperor's emerald may have been used as a real protective glass which rendered his photophobia more easily tolerated. The green colour, on the other hand, may have been significant of the Emperor's political tendency, as the "party" openly manifested their partiality for the "greens" by wearing green dresses and strewing the floor with green sand.

In the early Middle Ages we meet with the same difficulty in finding any trace of ground glasses with a long focus. We find the same conditions prevailing at this time as obtained at the end of the early ages. This need not excite surprise, as the people of the early era obtained all their knowledge from the early Greeks and Romans. In old writings casual mention is made of magnifying glasses, but never of spectacles. Winfrid, the great Scot, called Saint Boniface (A.D. 680-755), knew the effect of magnifying glasses, as did also the German poet Konrad who died in 1287. The Arabian Albazen in the middle of the eleventh century speaks of the magnification caused by a segment of a glass ball and his commentator, Vitellio, was anxious to obtain such a glass to enable him to see small objects better. In the year 1276 Roger Bacon, one of the most learned men of his day, was the first to mention glasses. He remarks, in treating of the properties of glass lenses, of which he had a very valuable collection, "how useful they must be to those who are old and have weak sight."

About the year 1300 glasses were well known in Germany, as is expressly signified by the lyric poets of that time and, according to Humboldt, they were extensively used in Flanders. The majority of direct references to the invention of glasses is met with in the Italian authors. Of the sons of

that country two are credited with it, Salvino d'Armati and Spina. To the former, the invention of glasses in the year 1285 is attributed. He died in 1317. The Florentine antiquarian, Leopold del Migliore, discovered in a church in France an epitaph which ran as follows: "Here lies Salvino d'Armati of Florence, the inventor of spectacles. God forgive him for his sins. Died in the year of our Lord 1317." Spina was a Dominican friar in the cloister of Saint Catherine in Pisa. The archives of the monastery relate that he died in 1313, that he was a good man, of a retiring disposition, who understood how to reproduce anything he saw or of which he heard; he used glasses himself which

were made by someone who would not divulge the secret of their manufacture. With kind heart and willing hand he imparted what knowledge he had to his fellows. Giordano da Rivalto, a renowned preacher and divine of the same monastery, said after one of his sermons, preached on February 23, 1305: "It is barely twenty years since the art of making spectacles which enable us to see better, was introduced, one of the most useful arts in the world. I have myself seen and spoken to the man who first made them." To whom he referred we do not know. This would give the date of about 1280.

Dr. Franciscus Redi, a physician and philosopher, wrote to his friend Paul Falconeri, a Roman, in 1676, that he had an old manuscript dated 1299, which set forth in reference to correct writing and speaking:

I find myself so oppressed with years that without

glasses, known as spectacles, I have neither strength to read or write. These have been lately invented for the convenience of poor old people who are weak sighted.

An account of the festivities in connexion with the marriage of the Duchess Jutta, of Austria, states that a guest, Pietro Buonaparte, Ambassador to the Austrian Court, caused great excitement by appearing in glasses, called "beryls," across his nose, invented by the Florentine, Salvino d'Armati.

That glasses were invented at the end of the thirteenth century in Italy is abundantly shown by the great majority of contributors to the history of this subject and either by Armati or Spina,



FIGURE III.  
After a wood-cut in Bartisch's Ophthalmology.  
He warned against the use of glasses.

together or independently of each other. We read, however, that at the same time in Germany old people were using them, as they were also in Flanders. Other accounts agree in the statement that the same thing was going on in countries far removed from each other.

The references to Armati and Spina are so numerous that they have forced other traditions into the background, the chief of which declare that Roger Bacon was the discoverer. Caesamaker decides in favour of Bacon and there is much to be said for him. Heinrich Goethals, a close friend of Bacon, may have been entrusted with the secret of the invention and use of glasses and of Bacon's studies with magnifying glasses. He was commissioned to go to Rome to advocate a matter relating to his order before Pope Martin IV. On his journey through Italy he heard the Pope was dead (A.D. 1285) and in order that the journey should not be made in vain he remained in Florence until a new Pope was chosen. Here he got to know Spina (the man who could reproduce anything of which he heard) who, from what Bacon's friend told him, it is said, made spectacles; so that Spina may have got his inspiration indirectly from Bacon. The sad fate which overtook the Oxford Franciscan explains why his name was not mentioned in this matter. Though in scientific knowledge he by far excelled his contemporaries, his invention was looked on as a sort of witchcraft or as the work of the very devil himself. His name was of bad repute in Italy, as he frequently and emphatically reprimanded the corrupt morals of the clergy. He was finally overcome by his enemies; for, after writing one of his letters to the Pope, they threw him into prison, where he languished until within a short time of his death.

The first medical man to mention glasses was Bernard Gordon, educated at Salerno and professor in Montpellier. He said that they were not necessary, thanks to his remedies for eye complaints, which so excelled that they made those whose sight was failing, able to read small print without glasses. Guy de Chauliac, body physician to Popes Clement VI, Innocent VI and Urban V, also lauded his own

eye lotion, but added: "If this does not relieve you, try eyeglasses."

No one at this time knew anything at all about the refraction of light, hence the senseless talk about the various remedies.

The laws of optics, relating to glass lenses, have been known only since the time of Maurolycus (A.D. 1571-1630). The physician who first ordered glasses in a professional capacity was one Montanus, a teacher in Padua. He ordered protecting glasses, reading glasses and, some say, prisms. Physicians at this time evinced great hostility to the wearing of glasses and, owing to the way in which they

dissuaded the people from their use, the practice did not spread very rapidly. The chief among these was Georg Bartisch, of Königsbrück, near Dresden, the author of the first book on ophthalmology (see Figure III). Even into the nineteenth century physicians considered it beneath their dignity to order proper glasses for anybody and left it to dealers, who, as even in our time, surrounded the testing for glasses with a mysterious air. It was only in the middle of the nineteenth century that fixed printed testing types were obtainable by ophthalmic surgeons. Until the laws of optics were discovered, which was long after spectacles came into use, these were considered things of mystery; people attributed a secret power to lenses by the aid of which they could read and write. Franz de Paula (died A.D. 1507) declared that his lost vision was quite restored by the use of glasses. Theophrastus Paracelsus, the wonderful chemist and doctor who spoiled an otherwise

worthy reputation by "crying in the markets," speaks of an *ars berillistica* and considered spectacles a consecrated crystal in which one could see the events of the future. In the year 1551 record related that Roger Bacon had ground a glass in which he could see the devil at play.

It is not difficult to explain why our knowledge of the advent of spectacles is so scanty. About the time at which these events were taking place, methods of communication were very few and primitive, the only means being writing on either parchment or stone. The latter has at least preserved the name of the inventor of spectacles.



FIGURE IV.  
Showing kind of glasses worn in Germany, 1417.



There were comparatively few costly manuscripts produced at the time when the art of writing and illuminating them was first practised, and only a few have resisted the hand of time and thus have been preserved. In a sketch of the Council of Constance by Richtenthal in the library of Prague University (see Figure IV) the Chancellor is represented with glasses clipped on his nose (A.D. 1417), while in part of the same manuscript preserved in the library of the Royal Academy of Arts in St. Petersburg none is seen wearing glasses, though it abounds in figures. Paintings are important sources of information. We do not possess many pictures executed in the early days of the spectacle era and the artist, whatever his imagination might be, would never have sullied his reputation by introducing subjects wearing glasses.

To the caricaturist our subject presents a rich field and many express by their productions the use and form of glasses. These are also useful in giving us the period of production of the picture—not that of the subject. In the same way, according to the choice of the painter who thought fit to dress his biblical characters in costumes of the Middle Ages, so also we find in such pictures people wearing glasses. Examples of this are seen in the "Adulteress" by Kranach and in "The Widow's Mite" by Titian in the Louvre; an old Jew is seen in each wearing glasses. Although the number of such pictures is considerable, yet it is relatively small considering the enormous number of pictures in which we seek in vain for any subject wearing glasses. In representations of the audiences of theatres not a single individual is seen wearing them. A comparison of these with similar representations of the nineteenth century shows a different condition of things. We see many people wearing glasses. The medical man is nearly always so represented in order to distinguish him from others. There is also another great difference between the periods. In former centuries few people used glasses at all, still fewer wore them; this difference is all the more striking when we consider that the eyes of mankind, with the exception of some increase of myopia, have not changed. There must have been

some cause or causes at work which prevented the general adoption of glasses as an aid to vision. As a matter of fact such causes did obtain; not only did doctors themselves refrain from wearing them, but they distinctly dissuaded the people from doing so. From lack of means of quick locomotion in the Middle Ages and early modern times a long period was required for glasses to become known to a wide circle and, as I have said, they were looked on as a kind of magic toy until such times as the laws governing the action of lenses on light were known. Still other causes may be adduced. It must be remembered that life in the old days seldom

rendered glasses necessary, as few followed any calling which demanded acute vision. Watch-makers, workers in gold, engravers, doctors, men of letters and teachers were not so frequently met with as nowadays. Even members of such bodies were but seldom depicted wearing glasses, whereas with the physician the urine glass was always in evidence. Those who had not good vision, avoided such occupations as required it. The world was not quite so well filled as it is today. The choice of occupation and the obtaining of a livelihood were not so difficult and we know that among the monks those only were entrusted with the execution of manuscripts to whom writing and painting presented no difficulties. Probably they were myopes. History relates that monks suffered from cramp in the arms and hands from prolonged writing, but



FIGURE V.  
The Bibliomaniac (Satire). After Sebastian Brant, 1494.

there is no mention of difficulty in seeing; Witkerb, Abbot of Tours (tenth century), renowned for the wonderful manuscripts he produced, wrote his last one in his ninetieth year. He was obviously myopic. Neither did the invention of printing, which brought the reading of books to a wide circle, tend to the increased use of glasses, for then the books were so large that they were carried on a stand and the thick letters could be deciphered without difficulty. The number of those who wore glasses relatively to those who actually required them, was still lessened by want of training and inferior social position of the women of that period. Women and girls who at the time were able to read with facility, formed such a remarkable exception that those who

possessed that faculty were considered to be highly accomplished. Pictures showing women wearing glasses are extremely rare and not one has been seen showing children wearing them; all men shown wearing glasses have the mark of advanced age.

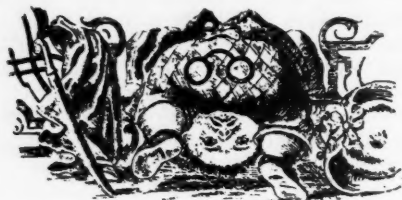


FIGURE VI.

We need not wonder that in early days men were strongly opposed to the custom, as at first glasses were ill-shaped and most disagreeably striking in appearance and, more than this, they directed the attention to a physical disability.

Patients wearing glasses were made fun of and not altogether in a very tender manner. On the title page of a satire on a tailor, published in the sixteenth century, two goats were represented standing on their hind legs, the one on the left wearing glasses and at the same time ejecting the contents of the lower part of his digestive apparatus. In the year 1494 a caricature of a bibliomaniac was published by Sebastian Brandt, representing that individual wearing a very ungainly pair of nose nippers (see Figure V). In a series of caricatures published in 1715 a dwarf is depicted in a clown's dress executing a somersault and on the buttocks which part is directed to the spectators, is sketched a pair of glasses (see Figure VI). Many other examples of the caricaturist's art executed at that period are extant and are evidently intended to show to what ridicule people were subject who availed themselves of this aid to vision. The shadow of this ridicule accompanied the wearing of glasses for a long time, even into the nineteenth century.

Their prohibitive costliness rendered the wide adoption of spectacles impossible. At the end of the sixteenth century the price per pair, expressed in terms of present day value, was from ten to twenty pounds. From this circumstance, glasses which had costly ornamental fittings were seldom seen and then in the possession of wealthy people only. They were enumerated among the possessions of the owner and in testamentary dispositions were particularly mentioned; for example, in 1372, in the will of King John of France and in that of Charles V of France and also in the list of belongings of Saint Antonine, Archbishop of Florence (died 1446). They could not always be obtained, even for large amounts of money. The Elector of Saxony in 1570, then in his forty-eighth year, just about the time when his presbyopia and latent hypermetropia, if he had any, were becoming manifest, sent his servant to Augsburg to get him a pair which, however, he could not obtain; he was obliged to go to Venice, where he got them. Lenses, too, were made in very

few places and the art of preparing them was very jealously guarded as a valuable secret. This secret was held until the sixteenth century, when it was lost, as was the manufacture of artificial eyes, through treachery, and the secret quickly spread to other lands. Venice for a long time was the only place where good glasses were made. Treatises on arts and manufactures of the eighteenth century give a prominent place to the making of glasses for spectacles and, as far as I can gather, Germany was the chief country which produced them. In France spectacle-makers were included in the Reflectors and Toy-makers' Guild and were mentioned in the new statute granted by Henry III in 1581. This order, or company as we call it today, possessed its own heraldic emblem, whereon is figured a mirror between two pairs of glasses. For the production of lenses fine Venetian glass as well as flint and crown glass was used. When we read that the raw material was provided by the beryl, we must not forget that under this name today many kinds of precious stones are included, from the dull or transparent and variably coloured crystals to the more costly variety, the aquamarine and, the most prized of all, the emerald. In the Middle Ages every transparent stone, even glass, was called "beryl" and there is no reason for doubting that the lenses were ground from beryl, though perhaps not from the finer varieties. Such crystals have been found in England and France, having a length of one to two metres, weighing 1,500 kilograms and chiefly grey or brown in colour. This recalls the topaz used by the Chinese, which has great variety in colour and markings. About the middle of the nineteenth century the most preferred and at the same time the most expensive glasses were made from Brazilian rock crystal, the "pebble" of today, which is characterized by its peculiar clearness and hardness. In 1591 a maker prepared

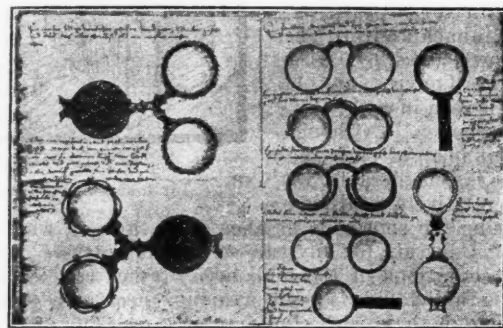


FIGURE VII.

Masterpieces of the makers' art, 16th century. No. 3 shows the first indication of a spring—fish bone.

glasses from amber saturated in linseed oil, which made the amber transparent and colourless. These were probably used as protectors, as were discs of mica used later. The lenses were not always round; some were oval and others square or even octagonal. At first, and probably with Armati, the lenses had

figures scratched on them, indicating the age of the person for whom they were considered most suitable, a quite arbitrary notation, which in the most favourable case rested on very small experience; this method was given up, but on what ground is unknown. The designation of lenses according to their focal length was generally adopted about the middle of the nineteenth century. In the second half of the eighteenth century they were graduated according to their focal length in inches and even then each maker had his own method of notation. A long time elapsed before glasses were made comfortable to wear. Perhaps a reference to some pictures will do more than I can say to give you some idea of the evolution of the spectacle frame (see Figure VII). The oldest form is the reading glass for old people (it still survives), round and mounted in metal rim with long handle; this continued in general use until the nineteenth century. The lenses were large and thick and the rim not unusually made from one of the precious metals and highly ornamented; many of these had protecting cases which were used as handles; these single glasses were used by every nation in Europe. During the time of the first French Empire the use of these glasses was associated with a certain amount of foppishness and coxcombry and it was the fashion with men, as well as with women, to swing in an elegant manner a large glass with a handle and to put it before the eye (chiefly the left) from time to time, as though observing persons and things in

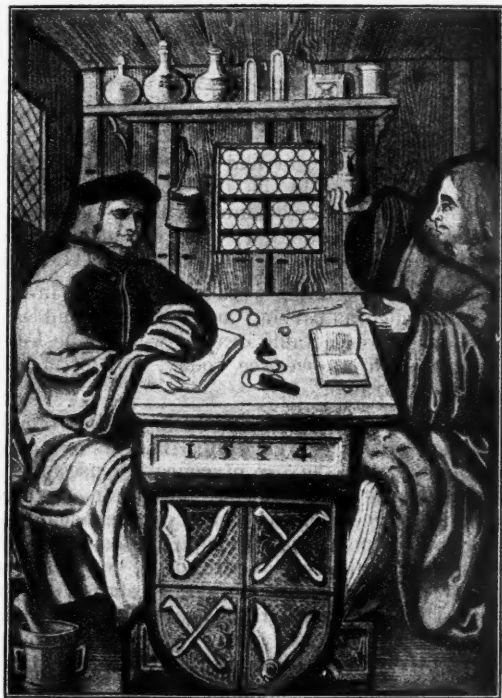


FIGURE VIII.  
A medical consultation, 1524. From a painting on glass (Swiss).

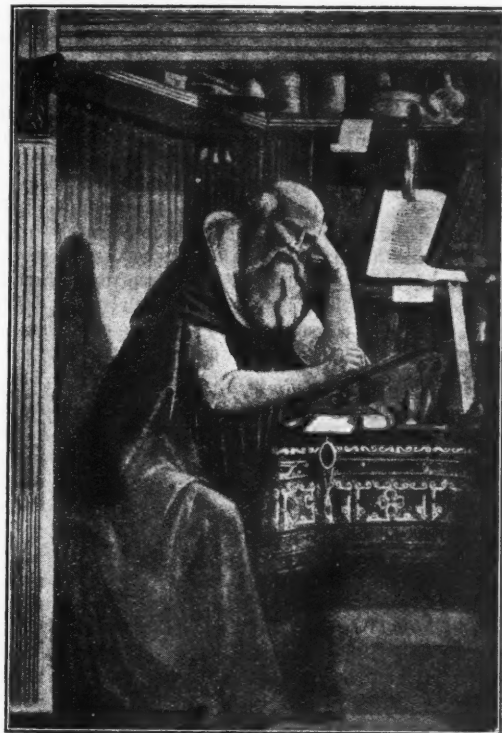


FIGURE IX.  
Saint Hieronymus. Wall painting by Ghirlandajo, 15th century, in the Church Ognissanti in Florence (glasses on side of desk).

earnest. Such glasses were very often simply plane glass. The history of the monocle I have not been able to trace. From this single glass frames with two lenses evolved at the end of the fifteenth century. Each glass had a support and these were fastened together at the end or were bound together with an overlapping joint and sometimes furnished with a protecting case. This form went out of fashion later and was reintroduced at the end of the first French Revolution, partly as a useful instrument and partly by the fops. At the commencement of the fifteenth century we find the glasses connected with each other by a very thick bar or bridge, the forerunner of the later adopted pince-nez, but still not so constructed as to sit or grip the nose firmly (see Figures VIII, IX and X).

Savonarola in one of his sermons advised those who wore glasses, to attach them to the peak of the cap, which latter should be well pushed down on the head, a method which survived a long time, but it was never popular. Glasses at this time were mounted in heavy frames of wood or leather and maintained in position by a cord tied behind the ears. Later, mountings were of gold, steel, silver, fish bones and variously coloured horn. These were provided with side pieces for holding them in position, mostly of metal, but very thick and clumsy. This obtained until the end of the



eighteenth century, when the much lighter constructed sides made their appearance. Those such as we see nowadays were not made until the 'thirties of last century. The precursor of the metal spring was one made from horn or fish bone, shown in one of the illustrations. The use of the string or cord commenced with the nineteenth century. At the end of the fifteenth century various ornamentations were added to or cut in the frames. The weight of the glasses was chiefly accounted for by the size and thickness of the lenses, as they were mostly of short focus. A picture by Watteau, painted a little time before his death (A.D. 1720), gives the first representation of the long handle lorgnette as we see it today (see Figure XI).

Glasses were sold chiefly by pedlars, mostly Jews, who occupied themselves also by grinding the lenses. These hawkers must have aroused some interest and curiosity, as they became the subject of numerous pictures, of which you see one or two copies. These dealers carried their wares from place to place as long as there were no resident eye doctors; the only representative of the ophthalmic surgeon being the cataract coucher, such as is seen today in India and the Balkans. These wanderers made glasses one of their most fertile sources of income; they gave themselves pompous sounding names, pretending to be real eye doctors, selling expensive glasses, not only for near and distant vision, but for the cure of diseases of the eye; and many of these gentry recommended glasses for



FIGURE X.

After an engraving by Rembrandt, 17th century. Large glasses.



FIGURE XI.

An insolent way of looking at a rival. French, 18th century.

reading for those who had not learned that art. They were also sold in the spectacle shops in Germany and at the beginning of the seventeenth century legal protection was extended to the manufacturers (see Figures XII and XIII).

The makers of glasses were mostly skilled in other fine work, such as carving in ivory, bone and wood. The shops of respectable dealers were made known by signs such as we see today, but of a more primitive character.

The lenses referred to in the foregoing remarks have been of the convex kind. The history of the development and the use of concave lenses is very different from that of the convex and is more recent. There is no mention whatever of concave glasses by the ancients, though shortsightedness was well known, not as an error of refraction, but as a weakness of the eyes. Theophrastus relates that the tyrant Dionysius (460 B.C.) was shortsighted and his courtiers flattered him by feigning a similar affliction. Aristotle discusses the cause of blinking and the small writing of the myope. From some remarks of Pliny we may conclude that short sight was not uncommon in his day. The well known Arabian physician Avicenna (A.D. 980), the



learned Dominican Albertus Magnus (A.D. 1193-1280) and other authors from the twelfth to the seventeenth centuries relate that not only was shortsightedness well known, but that in Italy it was very common, possibly due to the great number of students and the high standard of civilization and education in that country. This myopia engaged the attention of many learned men. Cardanus (A.D. 1501-1576), mathematician, philosopher and physician in Pavia, made the mind and disposition of the myopic the subject of dissertation, without having the slightest idea of the nature and cause of the condition. Roger Bacon was the first to mention concave glasses (A.D. 1276), but it was not until the end of the sixteenth century that we find the first clear description. It was given by John, Archbishop of Canterbury, in the year 1593. Porta also described the effect of concave glasses on short sight. The optical nature of myopia, as said before, was first discussed by Kepler and some time after Zahn, in 1685, first described the grinding of concave lenses. Compared with convex lenses, a much longer time elapsed before they came into general use, as there were many more obstacles in the way of progress for this than for the reading glass. The life of that day did not lend itself to the desire or even the necessity of improved vision for distance. The houses were confined within small space, streets were narrow and dark; the short-sighted instinctively avoided occupations and pleasures demanding good vision for distant objects, such as military life and hunting. Leo X was an exception to this, for he hunted with a concave glass and in spite of his myopia is said to have seen better than his companions. A picture by Raphael, painted A.D. 1517, corroborates what history says, as he is represented sitting between his two cardinals holding a single glass, which is evidently concave. He has the typical appearance of a myope (see Figure XIV).

So that we can assume with a fair degree of certainty that concave glasses came into use about the middle of the sixteenth century. Stilling found

in a book on duelling (A.D. 1551) rules laid down for the short-sighted, so that they should not stand at a disadvantage when engaging with one whose vision was normal. We also find that helmets for myopes were used in war. Specially made appliances were attached to the visor with small slits through which the short-sighted wearer could look. It is a well known fact that myopes can see better through small holes, as the peripheral rays of the cone of light are cut off. In Dante's time glass protectors were used in the visor to keep the dust from the eyes of the warrior. Had concave glasses been known at this time, they would probably have been put into the helmets of the short-sighted, but there is

no evidence of this. By the eighteenth century concave glasses were widely used and it was then understood that the lorgnette had reference to glasses for distant vision only.

The first scientific work on spectacles was published in Seville by Diego Perez in 1623. It was written by Daca de Valdez, a notary of the Holy Office in Seville. The address to the reader is accompanied by a portrait of the writer. The work is divided into four parts or books. The first deals with vision and the reasons why short-sighted people look close at hand and why old people are generally long-sighted. The second book treats of the use of glasses for the relief of defective vision and has a description of various



FIGURE XII.

The Spectacle Dealer. After an engraving by Dupuis (1696-1770). Painted by Franz Eisen.

glasses and of the optical and other physical differences between concave, convex and plane glasses. Later, the numeration of lenses is considered. An account of the chief methods of determining the refraction follows. The degree (*vara*) of Valdez closely approximated to our dioptré and was a Spanish unit of measurement somewhat less than the metre. He believed that women needed stronger presbyopic lenses than men. Valdez insisted that glasses are not cure-alls and that the state of the general health should always be borne in mind. He disapproved of the monocle, as he thought it would make the eyes unequal. He knew the value of stenopaic discs. In fact he was extraordinarily up to date in his ideas.

It was remarked by numerous observers that many were affected with weak eyes who were neither long nor short sighted, and who were not at all benefited by concave or convex glasses. It was reserved for Thomas Young to clear up this question, which he explained as being due to an abnormal curvature of the cornea, to which the name of astigmatism was given. It was while at Göttingen that Young made his first communication on this subject, which was soon followed by others from different observers. It was, however, a long time before anything was done in the way of relieving the symptoms produced by this condition and, as you well know, cylindrical lenses, either concave or convex, according to the error of refraction, were found to be the remedy. Cassas the painter recognized his own astigmatism in 1818, but not until 1844 did Suscipi, the Roman optician, succeed in fitting him with suitable glasses. Goodrich, a divine, was fitted by the optician McAlister in Philadelphia in 1828 with a concave cylinder. Airey, of Cambridge, described the astigmatism of his own eyes, which was corrected by Fuller, of Ipswich. Goode also discovered the same condition in himself and Chamblant, of Paris, gave him the correcting glass. Today it is the daily duty of every ophthalmic surgeon and should form part of his work, to estimate and give the proper glass for astigmatism, which can be done easily, thanks to the appliances available. Periscopic lenses are of somewhat ancient date. They were recommended



FIGURE XIII.  
Quack, 17th century. Big glasses.



FIGURE XIV.  
After Raphael. Pope Leo X with concave lens in right hand.

as the objective of the telescope in 1660. At the end of the eighteenth century Smith advised their use along with spectacle lenses, but it was Wollaston, in 1804, who introduced them into practice under the name by which they are now known. Made first by the English optician Dolland, they were introduced into France in 1813. Achromatic lenses were first made for spectacles by Charles Chevalier in the middle of the last century and according to Desmarrés it was he who was also the first to recommend the use of prisms about the year 1844 "as a great help in the treatment of squint." Hyperbolic glasses made their appearance in 1879 at the Ophthalmological Congress in Heidelberg. Rahlman, of Dorpat, recommended them for conical cornea and irregular astigmatism. The lenses were four centimetres in diameter and the cone had a depth of a half to two millimetres.

Protective glasses came into use at the end of the seventeenth century. Ambroise Paré recommended those who had been operated on for cataract, to wear green glasses. They were unpopular, as certain peculiarities were supposed to attach to those who wore them, such as moroseness, unsociability and depression of the spirits, a connexion not altogether avoidable in the present day.

Prejudice against the use of glasses still exists. However daintily made many people will not wear them unless in practical solitude and still more will not be seen outside wearing them, though, happily, these are in the minority. Such prejudices die hard and I think we have practically escaped from the

thraldom that held us, and people are now convinced that the wearing of proper glasses can be counted as nothing but a benefit.

I am indebted for practically the whole of the information contained in this paper to the researches of the late Dr. George Oliver, of Bradford. I have also to thank Dr. Cowlshaw for directing my attention to the work of Valdez, the Spaniard.

#### THE TREATMENT OF INOPERABLE CANCER BY THE INJECTION OF A COLLOIDAL PREPARATION OF VARIOUS METALS—BISMUTH, LEAD, COPPER.

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THE problem of inoperable cancer is one which confronts every practising physician and surgeon and more particularly the general practitioner who has to "carry on" after the specialist physician or surgeon has finished with the patient.

Successful surgical treatment depends entirely on accessibility and early diagnosis which unfortunately is often impossible, except when the condition can be seen or felt and even here the condition is not often seen or recognized until it has become generalized. One therefore grasps hopefully at any straw which may enable us to treat patients with inoperable tumours by some means of general treatment which will attack secondary deposits as effectively as the primary condition. The ideal that we hope for and which must come, is a remedy which will be as effective an antidote to the cancer cell as the diphtheria antitoxin is against the toxin of the diphtheria bacillus.

In recent years colloidal metallic copper and colloidal metallic lead have been used with varying success. The great protagonist of colloidal metallic lead is Blair Bell,<sup>(1)</sup> of Liverpool, and the subject has received considerable publicity through a correspondence in *The British Medical Journal* as the result of an unfavourable report by Wyard,<sup>(2)</sup> of the Cancer Hospital, London. Other workers, notably Bischoff and Blatherwick<sup>(3)</sup> in America, dissatisfied with colloidal metallic lead, have been using colloidal lead phosphate, also with the same results as with colloidal metallic lead. For some years past the writer has been experimenting on a new method of administering metals by combining them with the red corpuscles of the blood. A note on the subject was recently published<sup>(4)</sup> and it is hoped that clinically this method will be found superior to the older methods, in the same way that it was found, for example, that arsenic, when combined in a large organic molecule, is more effective therapeutically and less toxic to the organism generally than when administered in an inorganic form. Unfortunately it has not been possible to test the method on a large number of patients, as

the only patients at my disposal are those in my small out-patient clinic at the Women's Hospital, Melbourne, who are willing to undergo the treatment, and a few patients from my private practice or who have been referred to me by my colleagues. A summary of all patients treated is appended.

#### Details of Method and Results.

The preparation used was a paste of red blood corpuscles with which the particular metal used was combined. In some cases the patient's own corpuscles were used, in others ox or sheep corpuscles were used.

The bismuth-lead preparation used contained 4.8% bismuth and 2.7% lead, estimated as the elementary bismuth and lead respectively, while the copper-lead preparation contained 3.13% of lead and 0.60% copper, also estimated as the elementary metal.

The preparation was used suspended in the strength of one gramme of "paste" to four cubic centimetres of normal saline solution. The dosage was determined by preliminary experiments on dogs. Of the bismuth-lead preparations the general dose was sixteen cubic centimetres, a dose of twenty cubic centimetres nearly proving fatal. Of the copper-lead preparation the dose was twelve cubic centimetres which experience showed to be a safe maximum.

As a rule four injections were given. In early members of the series the dose was repeated twice a week, but in the later series once a week. In the earlier series in which bismuth-lead was used, secondary anaemia was a pronounced feature, but in the later patients for whom copper-lead has been used, there has been very little anaemia. In 1924 and 1925 I had the opportunity of giving injections of copper only to three patients, one, a young woman with generalized melanotic sarcomata; the second, an elderly man with extensive carcinomatous ulceration of the face and orbit and the third, a man with extensive cancer of the tonsil, pharynx and base of the tongue with cervical gland involvement. In these three patients the copper was combined with the patients' own corpuscles.

These were given three, four and one injection of copper respectively. The first of the two men showed very slight temporary improvement, but the young woman felt very much better and was able to attend to her ordinary affairs until a fortnight before she died. Whether her life was prolonged or not, cannot be stated, but it must be admitted that for a time she was very considerably improved.

While I was abroad in 1926 to 1927, I had the opportunity of giving injections of the bismuth-lead combination to four patients. An early report showed distinct improvement in one instance, but since then I have had no report.

Since my return from Europe last year I have had the opportunity of giving injections to fourteen patients. All these patients were of the absolutely hopeless type and were going rapidly down hill. They had practically all been operated on and many of them had also had one or more treatments with X rays (deep therapy) or radium or both, with

APPENDIX.  
DETAILS OF TREATMENT OF TWENTY-ONE PATIENTS.

No.	Age.	Situation and Nature of Disease.	Previous Operation.	Deep Therapy.	Radium.	Injection Material.	Number of Injections.	Date of First Injection.	Further Treatment.	Result.
1	33	Generalized melano sarcoma	Primary removed from axilla	—	—	Cu. with own corpuscles	3	21.6.1924	—	Marked temporary improvement observed.
2	57	Face and orbit	Not known	Not known	Not known	Cu. with own corpuscles	4	14.5.1925	—	Slight temporary improvement observed.
3	58	Tonsil, fauces, tongue	—	—	—	Cu. with own corpuscles	1	18.6.1925	—	No improvement observed.
4	63	Penis, inguinal and pelvic glands	Amputated	—	—	Bi.-Pb. Sheep's corpuscles	3	7.5.1927	—	22.5.1928, looked and felt well; later committed suicide.
5	—	Stomach and pancreas (inop.)	Exploratory	—	—	Bi.-Pb. Sheep's corpuscles	2	26.5.1927	—	No report.
6	60	Pelvis, vagina and bowel	Colostomy, April, 1927	—	—	Bi.-Pb. Sheep's corpuscles	3	7.5.1927	—	No report.
7	82	Hand, glands at elbow and axilla	1925, excision	—	—	Bi.-Pb. Sheep's corpuscles	1	5.5.1927	—	Temporary improvement; went home after first injection.
8	49	Vagina and uterus	—	—	—	Bi.-Pb. Ox corpuscles	3	7.12.1927	—	Last report very ill; no improvement, worse if anything.
9	66	Vagina and uterus (vagina filled with fungating mass)	—	—	September, 1924	Bi.-Pb. Ox corpuscles	3 1	10.1.1928 25.4.1928 (2nd series)	— —	25.4.1928, looked well, felt well; 14.5.1928 dead.
10	46	Recto-vaginal, recto-vaginal mass, blood p.v. and p.r.	—	—	January, 1927	Bi.-Pb. Ox corpuscles	3	5.2.1928	—	Slight temporary improvement; later bad report; no report since.
11	35	Kidney, paralysed from waist down, incontinence of urine and faeces	August, 1926, nephrectomy	October, 1927	—	Bi.-Pb. Ox corpuscles	4	22.2.1928	X-rays after last injection	1.3.1928, sph. vesicles beginning to function; 10.4.1928 dead.
12	55	Recto-vaginal	—	August, November, 1927	March, May, 1927	Bi.-Pb. Ox corpuscles	3	11.3.1928	X-rays after last injection	Blood count improved 31.3.1928, recto-vaginal fistula; 4.8.1928, looks well, has control over bowel.
13	43	Pelvis, abdominal scar-nodule	7.12.1926, subtotal hysterectomy; 7.2.1928, mass removed from abdominal wall	February, 1928, to abdomen and back	January 7, 1927, February, 1928	Bi.-Pb. Ox corpuscles	3	21.4.1928	—	Well.
14	44	Breast	August, 1926, breast removed	April, 1928	—	Bi.-Pb. Ox corpuscles	2	12.5.1928	—	Temporary improvement, complains of pains in legs.
15	44	Breast secondaries in neck and chest	June, 1926, breast removed	July, 1927 October, 1927	—	(1) Bi.-Pb. Ox corpuscles (2) Cu.-Pb. Ox corpuscles	1 3	19.5.1928 19.9.1928	—	Improved.
16	48	Urethra	Nine years ago hysterectomy; eight years ago operation for incontinence of urine	—	—	Bi.-Pb. Ox corpuscles Cu.-Pb. Ox corpuscles	2 4	12.5.1928	—	16.6.1928, urethra apparently healed; 14.8.1928 dead.
17	44	Uterus, cedema of legs, mass right pelvis, glands left side of root of neck	17.9.1926, pan-hysterectomy	Six applications	October, 1926	Cu.-Pb. Ox corpuscles	4	16.6.1928	—	Improved.
18	52	Stomach and colon	29.5.1928, inop. cancer of stomach, colon, glands, etc.	—	—	Cu.-Pb. Ox corpuscles	4	30.6.1928	—	Improved.
19	40	Uterus	Diagnostic curettage, April, 1928	—	April, 1928	Cu.-Pb. Ox corpuscles	4	30.6.1928	—	Much improved.
20	74	Right upper lip, glands right side of neck	Four to five years ago had cancer removed left side of lip	—	—	Cu.-Pb. Ox corpuscles	5	11.8.1928	—	Much improved.
21	45	Uterus secondaries in pelvis	Pan-hysterectomy one and a half years ago	—	—	Cu.-Pb. Ox corpuscles	—	29.8.1928	—	Much improved.



only temporary or no improvement. A summary is appended.

Nearly all manifested some temporary improvement after the injections. One female patient with a large sloughing mass involving the urethra, who was practically dying when given her first injection, lived three months with very obvious temporary general improvement and complete clearing up of the local condition.

From the statistical point of view about one half of the patients were unsatisfactory, as they were practically dying when given the first injections, but it was felt that if there was anything in the method it might be possible to do something for even these patients and the demand of common humanity that something should be done was satisfied.

Many of the patients complained of abdominal pains or neuritic pains in the limbs apparently due to the lead or copper or both and some also complained of pains in the joints which may have been "toxic" due to the absorption of breaking down tissue. In the later cases these conditions were anticipated by giving acetosalicylic acid during the period of the course of injections and the patients so treated have complained very little of pains in the joints or of neuritic pains.

An interesting feature is shown in the skiagrams of Case number 21. This patient had panhysterectomy done for cancer of the uterus one and a half years ago. She was admitted one month ago complaining of sciatica on the left side. Examination revealed a mass on the left pelvic wall and the skiagram showed an indefinite mass in the pelvis. After two injections of copper-lead this appearance is very marked and noded lines radiating from the position of the removal uterus appear, as if secondaries had absorbed the metal. A later skiagram after two further injections shows this effect even more pronounced.

The skiagram of a patient with extensive secondary deposits in the chest after radical removal of the breast in June, 1926, shows a similar effect.

#### Summary.

Total patients treated, twenty-one.

#### 1. Copper.

Three patients treated:

- One much improved temporarily.
- One very slight temporary improvement.
- One no improvement.

#### 2. Bismuth-Lead.

(a) Four patients treated while writer was abroad:

- One patient showed temporary improvement, but committed suicide when told outside that his condition was inoperable and hopeless.
- One slight temporary improvement, no further report.
- Two patients, no report.

(b) Seven patients treated since November, 1927:

- Two patients dead,<sup>1</sup> of whom both showed temporary improvement.

<sup>1</sup> Each of these patients also had a suberythema dose of X rays.

One patient worse. No further report.

Two temporary improvement.<sup>1</sup> No further report, believed dead.

One patient improved.

One patient much improved.

3. *Copper-Lead* (including two patients who had had one injection of bismuth-lead preparations).

Seven patients treated:

One patient died after great local improvement.

Three patients improved.

Three patients much improved.

As these are the most recent patients treated it may be necessary later to review these findings.

This work is slowly progressing and if further patients are available for the investigation, it is hoped that even better results may be obtained. To facilitate this work a friend of mine has made available a number of beds at a private hospital in Melbourne where patients not in a position to pay will be treated free of all cost, if so recommended by their medical attendant, and I confidently look forward to the cooperation of my colleagues in this work.

#### Acknowledgements.

I would like to express my thanks to Professor W. A. Osborne for the use of his laboratories, to Professor E. Hartung for having undertaken the chemical analysis of the preparations used, and to the Librarian of the Royal Society of Medicine, London, for having searched and abstracted the literature on the subject for me.

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#### "YATREN" TREATMENT OF "SIMPLE" ULCERATIVE COLITIS.

By BASIL CORKILL, M.B., B.S.

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It is the experience of most practitioners occasionally to encounter patients suffering from so-called simple ulcerative colitis. In these the diagnosis is usually made on negative findings and up to the present no definite or efficient *régime* has existed for the treatment of this condition.

<sup>1</sup> Each of these patients also had a suberythema dose of X rays.

Recently at the Alfred Hospital we encountered two such patients. For want of a definite diagnosis, treatment was unsatisfactory. About this time supplies of "Yatren" were made available. This drug, according to Manson-Bahr,<sup>(1)</sup> has proved of great value in cases of chronic amœbic dysentery and it was suggested that it might benefit the two patients mentioned above.

The use of "Yatren" was suggested on the assumption that possibly some cases of simple ulcerative colitis might originally have had an amœbic basis. This hypothesis has been justified by the results of other workers in this field.

The results were so striking in the two patients treated at the Alfred Hospital, that it was thought worth while to publish brief notes of them in order that other workers might test "Yatren" in similar conditions.

The rationale of using "Yatren" in these cases may be summarized as follows:

I. The possibility of amœbic infection in individuals who have permanently resided in temperate zones must now be seriously considered. The following extract from a survey table by J. G. Thompson<sup>(2)</sup> gives some interesting information concerning the distribution of amœba in temperate zones.

Craig<sup>(3)</sup> found that 14.6% of a series of 116 individuals, none of whom had been in the tropics, yielded *Entamoeba histolytica*. Craig is of the opinion that this figure should not be taken as indicating the percentage of infection throughout

the country, but he assumes that the average of infections with *Entamoeba histolytica* in the population of the United States is at least 10%. This writer also believes that although these "carriers" do not present the classical syndrome of amœbic colitis, yet, nevertheless, they present a symptom complex of infection with *Entamoeba histolytica*. These symptoms are chiefly of a gastro-intestinal and nervous nature. The symptoms, according to Craig, referable to the nervous system, are those commonly observed in the so-called neurasthenic patient. For a fuller discussion of Craig's views his article should be consulted.

II. Even recognizing the possibility of amœbic infection as in the individuals cited in paragraph I, the diagnosis is a very difficult matter. According to Otto Willner<sup>(4)</sup> the differential diagnosis which is based on morphological characteristics, has to be made by an expert. The final diagnosis is usually made with a permanent stain (iron hæmatoxylin) and the necessary search of about ten smears cannot be carried out in less than three hours' time. In addition six such examinations are necessary to rule out the presence of *Entamoeba histolytica*.

III. Emetine in chronic amœbic dysentery has not been a very successful drug. According to Willner<sup>(5)</sup> the dissatisfaction of physicians with this drug is illustrated by the steady increase of the dose of emetine used. The efficient dose of emetine is so near the toxic dose that the latter is nearly always given. Willner quotes the following summary by Young and Tudhope:

Observer.	Locality.	Types of Individuals Examined.	Number of Cases.	Number of Examinations per Case.	Percentages of Positive Findings.						
					<i>E. histolytica</i> .	<i>E. coli</i> .	<i>E. nana</i> .	<i>I. butschlii</i> .	<i>Giardia</i> .	<i>Chlamydomonas</i> .	<i>Trichomonas</i> .
Matthews & Smith, 1919	Liverpool, England ..	Recruits in camp. Never out of England	1,098	1	5.6	18.2	5.5	0.4	7.0	0.18	0
Dobell, 1921. Summary of works of Matthew & Smith, also of records by Goodey, Thacker, Campbell, Nutt & McLean	England: Liverpool, Leeds, Birmingham	Civilians never out of England. Army recruits, hospital patients, etc., excluding asylum cases	3,146	Mostly single examinations	3.4	18.1	4.6	0.25	9.3	2.9	0
Bach, 1924 .. ..	Germany Rhine Province	Inhabitants: Adults, 214; children (under fifteen), 221	435	1	6.0	23.2	7.8	4.8	14.9	1.4	0
Kofoid & Swezy, 1920	United States .. ..	Overseas troops .. ..	2,300	1+	12.8	20.5	29.3	0	5.7	4.2	0.1
Kessel & Svensson, 1924	China: Peking .. ..	Foreigners, all ages ..	221	1	10.0	12.8	15.8	1.3	13.0	3.6	0.8
Maplestone, 1921 ..	Queensland .. ..	All ages .. ..	500	1	4.6	26.4	0	0	11.8	2.2	0
Maplestone, 1924 ..	Sierra Leone .. ..	Native men in gaol ..	500	1	15.0	43.6	9.8	13.0	2.2	1.8	2.2
Wenyon, 1916 .. ..	London .. ..	Convalescent soldiers ..	556	1	10.8	39.0	1.0	5.2	16.0	0.7	1.6
Wenyon & O'Connor, 1917	Egypt: Alexandria ..	Convalescent soldiers ..	328	Mostly 1	6.4	31.7	0	2.0	5.4	0.9	0.6
Dobell, 1917 .. ..	Britain .. ..	Returned troops .. ..	2,000	3	12.6	40.5	0	0	16.1	0	0
Kessel & Svensson, 1924	China: Peking .. ..	Foreigners, all ages ..	105	3	13.4	25.6	20.8	2.8	2.8	5.6	0.9
Smith & Matthews, 1917	England .. ..	Non-dysenteries returned from abroad	200	About 3	7.5	23.5	0	0	11.5	2.0	0
Kofoid & Swezy, 1920..	United States .. ..	Home Service troops ..	53	6	26.5	29.0	64.0	0	2.9	5.8	2.0
Dobell, 1921 .. ..	England .. ..	Civilians never out of England	—	6	7.0 to 10.0	36.5	9.0 to 13.0	0.5	18.0 to 27.0	6.0 to 9.0	0

(1) Emetine is a protoplasmic poison, acting equally on all tissues, heart failure being the actual cause of death.

(2) In cases where the heart or kidney is affected it is advisable to give as small a dose as possible.

(3) In an otherwise healthy individual it would appear advisable to limit the number of doses as far as possible and not to give within twenty-four hours more than one grain of the drug.

(4) The weakness produced after emetine administration is probably the result of the direct action of emetine on the muscle protoplasm.

(5) Neuritis (of the alcoholic or arsenical type) is not produced by emetine; but degeneration of the motor fibres (as in lead palsy) may occur.

To combat these disadvantages of emetine various other drugs have been introduced. The chief of these are "Yatren," "Stovarsol," "Treparsol" and "Acetarson." "Yatren purissimum 105" is produced by the Behringwerke, Marburg (Germany). Its composition is given as follows:

Iodine	.. ..	5 parts.
Oxychinoline	.. ..	8 parts.
Sodium sulphonate	..	7 parts.

The following case demonstrates the method of using "Yatren."

D.S., a young man, aged thirty-eight, was admitted to the Alfred Hospital with the diagnosis of ulcerative colitis. He had suffered from a lack of bowel control for about eight months. He had frequent daily motions, twelve to fifteen stools *per diem*, consisting largely of fluid material with mucus and blood. The following examinations were carried out:

1. Sigmoidoscopic examination revealed many superficial ulcers in the rectum. The condition was thought to be somewhat suggestive of a tuberculous lesion.

2. Scrapings from the bowel mucosa contained no tubercle bacilli or amœbæ.

3. A guinea pig inoculated with scrapings of the mucosa and mucous material from the bowel failed to demonstrate any tuberculous infection.

4. Examination of the fæces failed to reveal the presence of any known dysenteric organisms.

5. No agglutination followed mixing the patient's serum with known dysenteric organisms.

The patient, D.S., was first treated with silver nitrate, one in six thousand solution, irrigations. Emetine, fifteen milligrammes (one-quarter of a grain), was also tried. The injections proved very toxic to the patient. In addition a caecostomy was performed, but all these measures were ineffectual and so after ten weeks' varied but unsuccessful treatment he was put on "Yatren" therapy with definitely beneficial results.

The details of this treatment are as follows: From the first to the seventh day inclusive "Yatren" pills of 0.25 gramme, three pills three times per day, were given orally. Rectal treatment consisted in washing the bowel out daily with a "Yatren" enema (two hundred cubic centimetres of a 3% solution of "Yatren 105"). This enema should be retained for several hours.

This constitutes one course of "Yatren." It is repeated, if indicated. If any symptoms of intolerance result, the strength of the enema should be decreased and the oral administration either discontinued or carried out on alternate days.

The patient, D.S., had three courses of "Yatren" with intervals of five days between each course, followed by an enema of "Yatren" every week for ten weeks. At present he has complete freedom from symptoms.

Two other patients have responded equally well, as judged by the absence of symptoms and a series of proctoscopic examinations.

#### Conclusions.

1. In three cases of ulcerative colitis where tuberculous, neoplastic and bacillary dysentery lesions could be reasonably excluded, "Yatren" appeared to be of definite therapeutic value.

2. A method of administering "Yatren" is outlined.

#### Acknowledgement.

In conclusion I wish to thank Mr. A. J. Trinca and Mr. Kennedy for permitting the investigation on their patients.

#### References.

<sup>(1)</sup> Philip Manson-Bahr: "Recent Advances in the Treatment of Amœbic Dysentery," *The British Medical Journal*, September 17, 1927, page 490.

<sup>(2)</sup> J. G. Thompson: "Human Entamœbiasis in Temperate Zones," *Journal of State Medicine*, Volume XXIII, 1925, pages 568-573.

<sup>(3)</sup> Charles F. Craig: "Symptomatology, Diagnosis and Treatment of Carriers of Entameba histolytica," *Journal of the American Medical Association*, April 28, 1928, page 1347.

<sup>(4)</sup> Otto Willner: "Remedies Recently Introduced in the Therapy of Amœbiasis," *Medicine*, Volume VI, Number 3, page 341.

<sup>(5)</sup> Otto Willner: *Ibidem*, page 345.

## Reports of Cases.

### FOUR INTERESTING JAW TUMOURS.

By PERCIVAL PICKERILL, C.B.E., M.D., M.S.,  
*Sydney.*

THE four cases here described are interesting in that they all have features in common, yet they are all essentially different. The tragic malignancy of many jaw tumours is well known, and is illustrated strikingly in three of the cases.

#### Case I.

The first case is that of a woman, aged thirty years, referred to me with an obvious malignant tumour of the



FIGURE I.

upper jaw, as may be seen from the accompanying photograph (Figure I). She was practically blind in the left eye. There was pronounced proptosis and the tumour could be definitely palpated above the zygoma. The pain was considerable. I naturally gave a very unfavourable prognosis and said that, if on removal of a section for examination it proved suitable, radium would be used,



FIGURE II.

operation being out of the question. The pathological report was "a small round-celled sarcoma." I inserted ten needles of ten milligrammes of radium in such a manner as to get the maximum of cross fire. Judge of my surprise and the patient's joy when ten days later all signs of the tumour had completely disappeared. Vision

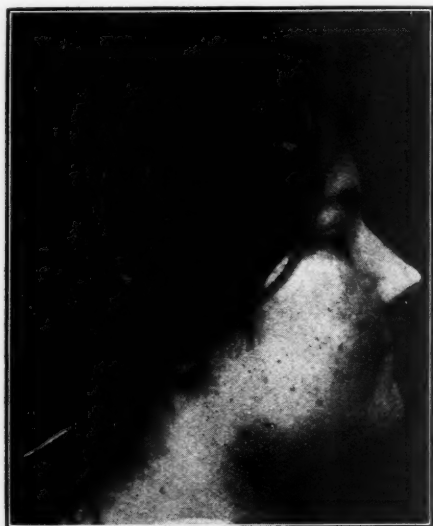


FIGURE III.

in the left eye was normal and all pain had vanished. It was as though a magic wand had been waved and caused a miraculous disappearance. Note the photograph taken only thirteen days after the first one (Figure II). Alas, however, our hopes were false and doomed to bitter

disappointment. In five months the patient was dead with recurrence; this despite the fact that in the interval she had had two further treatments with radium.

#### Case II.

The second case was that of a woman, aged twenty-nine years, sent to me with a distended right antrum which



FIGURE IV.

had previously been diagnosed as a cyst and opened from the mouth. This opening had not closed, but was filled with what looked like bright red granulation tissue. Aspiration yielded no fluid and there was no typical thinning of the bone such as is associated with cysts; there was, moreover, some pain (see Figure III). I therefore

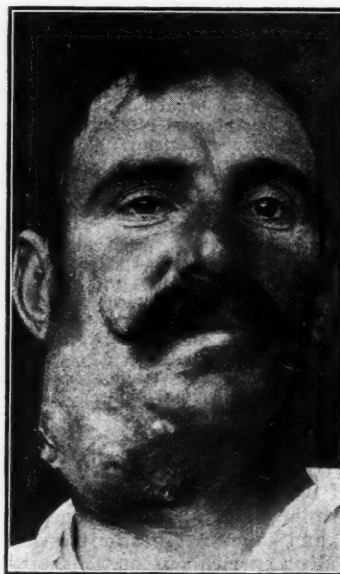


FIGURE V.

removed some of the "pink" tissue for examination and inserted six needles of radium (ten milligrammes each). The pathological report was granulation and inflammatory tissue only. The tumour rapidly disappeared and left the antrum empty. The patient was instructed to irrigate the antrum and return for closure of the aperture later.



In six weeks she was back with the antrum full of growth; the same process was repeated with the same pathological report. Yet a third time the process was gone through, but each time it was noticeable that recurrence was quicker and the effect of radium less destructive. When the antrum filled for the fourth time and the eye began to proptose, I determined, despite the pathological findings, on radical measures. I therefore removed the whole of the right maxilla, including the orbital plate, and eviscerated the orbit and again inserted radium. At last the laboratory report came back, "myxosarcoma." The result was as bad as could be. The growth returned with added vigour and malignancy; the orbit and the cavity filled rapidly and outshoots of tumour could be seen daily extending and affixing themselves, as it were, greedily on to the normal tissues. The photograph in Figure IV shows the patient after excision of the jaw and shortly before she died.

#### Case III.

The third patient, a man aged forty years, had during the war received a wound (not very extensive) of the



FIGURE VII.

right lower jaw. He stated that when out rabbiting he got what he thought was toothache and "the jaw began to swell." As soon as possible he went into town where

the swelling was opened. When he came under my care the incision was still open, discharging a little pus and he had a temperature of 37.8° C. (100° F.) (Figure V). I made an exploratory opening, but at once found that the tumour was not inflammatory in origin. It consisted of



FIGURE VI.

densely packed new tissue in the circumference and a necrotic mass in the centre. Massive doses of X rays were applied, but in spite of this the tumour grew with extraordinary and alarming rapidity and in seven weeks after I first saw him he was dead with the condition seen in the photograph (Figure VI). The pathological report was: "a very malignant osteogenic sarcoma—spindle-celled growth without new bone formation, arising from the periosteum" (Professor Ewing).

#### Case IV.

The fourth patient, a woman aged thirty-four, had had a swelling of the lower right jaw for eleven years. It had attained an extraordinary size, as may be judged by the photograph (Figure VII). X rays showed it to be a "multilocular cystic tumour of the jaw" and therefore, according to Bland Sutton's classification which I prefer, an epithelial odontoma (Ewing calls it adamantinoma, though why I am at a loss to know, since there is no "enamel" present, neither do these tumours ever form enamel, though they are indeed formed from cells which should have formed enamel). The patient had been treated by numerous aspirations, curetting and also by radium; all without much benefit. The question of



FIGURE VIII.

excision of the right half of the mandible with subsequent bone grafting was discussed, but decided against, since there was practically nothing left

of the upper part of the jaw, except the condyle, to which to graft. I therefore adopted the plan of subperiosteal enucleation through a long incision along the lower border of the jaw. In order to prevent deformity a splint-obturator was inserted immediately after operation. An enormous number of cysts was removed; the cysts nearly filled a pint jar. The patient made a good recovery (see Figure VIII). She now has a denture-obturator which keeps the cavity open. I am sure that all large cysts of the jaw which cannot be with absolute certainty dissected out clearly, should be permanently open. It is occluded epithelium which is likely to cause trouble, not the superficial. These tumours are to be regarded as locally malignant, with a possible tendency to become epitheliomatous.

#### Comment.

One could not help being struck in the three sarcomatous growths by the extreme rapidity of growth. In Cases II and III the tumours almost could be seen to grow whilst watched and without any doubt there was definite increase noted at each daily visit. One could not help asking what is it that is stimulating these cells to proliferate at this enormous rate and yet does not affect the adjoining cells? The tumour cells indeed seemed to have some cytolytic action upon the surrounding tissues, paving the way for the extensions of pseudopodia-like processes of the new growth. Might not the cytolytic property be more important than a possible local growth stimulant? All cell growth is held in check and differentiation appears to be largely due to growth association or the necessity of symbiosis with surrounding cells. If certain cells are removed from this necessity as in tissue cultures *in vitro* or in the living tissues by the removal of this factor (? by an enzyme), then they will revert to indiscriminate proliferation. It may also be that radium has a selective and destructive effect upon such an enzyme and, if so, the method of using radium and its dosage should be materially altered.

The temporary effect of radium in the first case was most dramatic and almost equally pronounced in the second case. Again I am led to ask: "If temporary destruction can be brought about, why can it not by alteration in technique be made permanent?" The failure of radium to effect any satisfactory result in epithelial growths in the mouth or jaws seems to be generally recognized and this is illustrated in Case IV.

The obvious inference from all four cases is the enormous importance of early correct diagnosis and radical treatment if and when possible. Patients are more reluctant perhaps in the case of the jaws and face to submit to early operation, for fear of some deformity, but when they see that the growth itself is causing deformity they are willing to undergo any treatment advised, preferring often "to try radium first." If the latter fails many months of valuable time have been lost and all hope of surgical eradication is past.

#### ASTEROID HYALITIS.

By J. FRANK SPRING, M.D.,

Honorary Oculist, Saint Vincent's Hospital, Melbourne.

Mrs. L. about twelve months ago got a slight knock on the right eye with the edge of a newspaper. Next day the eye was bloodshot. Since then the sight in the eye has been dim. She is under medical treatment suffering from "raised blood pressure."

Without glasses the vision in the right eye is  $\frac{2}{60}$ , vision in the left eye is  $\frac{6}{60}$ . Tension and pupils are normal. The patient is hypermetropic. With spherical lenses of +3.5 diopters the vision in the right eye is  $\frac{6}{60}$  and in the left  $\frac{6}{60}$ .

The right vitreous contains numerous white spherical bodies which move slightly with the vitreous structure, but do not fall in a shower. These bodies are placed at different levels in the vitreous. The left vitreous is normal.

The fundi show signs of arteriosclerosis, but are otherwise normal.

#### Comment.

J. M. Ball in the *American Journal of Ophthalmology*, February, 1924, stated that only fourteen or fifteen cases of this condition had been reported up to that time. He also suggested that all of these reported cases were not true examples of asteroid hyalitis.

This case now reported seems to me to correspond exactly with the original case reported by Benson in 1894. I am rather disposed to consider that this condition has been caused by a hæmorrhage, though it may be congenital.

In Stack's case (*American Journal of Ophthalmology*, October, 1924) there was to my mind a different condition present to that reported by Benson. In his case and also in that reported by Bailey in the same journal in October, 1926, the underlying cause seemed to be quite definitely tuberculosis. In my case there was no suspicion of tuberculosis in the patient herself and her family history was satisfactory. Stack's patient, as also Bailey's, had loss of vision in the eye. Benson's patient, like mine, manifested no such defect. The Wassermann test in this case yielded no reaction.

### Reviews.

#### HYDATID DISEASE.

It is safe to say that the appearance of Dr. H. R. Dew's "Hydatid Disease" constitutes a landmark in Australian medical literature and that it will be appreciated no less throughout the world than in Australia as the latest and most complete treatise on hydatid disease and a fitting successor to the monumental work of Vegas and Cranwell.

As stated in the preface, this book marks the culminating point in a series of researches on hydatid disease, initiated by Dr. N. H. Fairley and carried on at the Walter and Eliza Hall Institute, Melbourne, during the past five years.

Dr. Dew's work on hydatid disease was already well known and the publication of his monograph eagerly anticipated since in the absence of any complete work in the English language since 1894 it was to supply a long felt want. Dr. Dew has supplemented his own researches by abstracting not only the whole of the Australian literature on the subject, but also the publications of investigators in every part of the world, which is well attested to by the long and complete list of references attached to each chapter. Case histories have been carefully selected to illustrate special features of the disease and the illustrations which must be considered one of the outstanding features of the book, are produced excellently and apporportioned adequately throughout the text.

Commencing with a brief historical review the first chapter is devoted to a description of the biology and anatomy of the adult hydatid worm, *Echinococcus granulosus*. In the second chapter, on the etiology of hydatid disease of man, the author emphasizes the necessity in any consideration of the causes of the high incidence of the disease in man for a clear conception of the factors responsible for infestation of the dog with the adult worm and of domesticated animals with the larval stage. Dew finds himself in agreement with most modern opinion in stating that infestation of man is most frequently brought about through actual personal contact with infested dogs and as a necessary adjunct to any effective scheme for the control of the disease he advocates an intensive educational campaign. These early chapters contain the few slight

<sup>1</sup> "Hydatid Disease: Its Pathology, Diagnosis and Treatment," by Harold R. Dew, M.B., B.S., F.R.C.S. (England): F.A.C.S.; 1928. Sydney: The Australasian Medical Publishing Company, Limited. Royal 8vo., pp. 429, with illustrations. Price: 27s. 6d. net.

We have departed from our usual practice of publishing reviews anonymously in connexion with Dr. Dew's book. It was felt that the Editor of this journal, which is owned by the publishers of the book, should be relieved of the responsibility for the expressions of views on the work. Dr. B. T. Edey and Dr. I. Clunies Ross have accepted this responsibility.

errors which occur in the book, as for example the inconsistency in the use of specific names and in morphological detail, while of more importance is that in reference to the longevity of the echinococcus egg when subjected to desiccation as recorded by Dévé.

In the consideration of the geographical distribution of hydatid disease the importance of a large sheep population as a factor of prime importance in bringing about a high incidence in man is clearly brought out and with this conclusion the coincidence of the worst areas of hydatid disease in man in Australia with those of densest sheep population is in striking agreement. Dr. Dew considers that in Australia there is little evidence that the incidence of the disease among the rural population has decreased greatly in recent years, though it is now proportionately much lower among the whole population. Chapter IV, dealing with the development of the hydatid cyst in the intermediate host, is of special interest, embodying as it does the author's own observations of development of the cyst from the earliest stages and being illustrated by a series of excellent photographs. Not less interesting to the biologist is the description of the formation of brood capsules and scolices, this again being supported by a unique series of illustrations. No evidence is found of the formation of scolices direct from the cyst wall without the intervention of the brood capsule or by budding from the external surface of the brood capsule. The author touches on controversial ground in his description of the mechanism of daughter cyst formation, especially in regard to the formation of daughter cysts from brood capsules and from individual scolices; though the latter phenomenon is now well established, it is apparently contrary to all laws relating to cestode development. Perhaps even more likely to promote argument is the hypothesis that so-called exogenous cyst formation is due to herniation of the layers of the cyst proper through defects in the supporting wall of the surrounding adventitia, the production of multilocular cysts in herbivora being largely dependent on similar factors.

In the chapter on general pathology the distribution of cysts in man is discussed and it is pointed out that infestation usually occurs in childhood, which explains, for instance, why brain cysts are much more frequent in children than in adults. It supplies the reason for the fact that hydatid cysts in adults are already old cysts. Dew believes that, although single cysts in man are frequent, multiple infestations occur in at least 60% of cases, a possibility which must always be borne in mind when assessing the value of immunological tests after surgical treatment.

The distinction between primary and secondary echinococcosis is emphasized here as throughout the book and this is necessary, for there is still much confusion on this point in the minds of students and practitioners.

The chapter on special diagnostic methods includes a lucid account of the specific immunity reactions which have been specially studied by Dew and others at the Hall Institute.

With the assistance of serological tests a correct diagnosis in hydatid infestations can be made in 90% to 95% of cases, while prior to their general adoption, the percentage of correct diagnoses, as shown by K. Fairley, was approximately half the above figure. The methods of performing the serological tests are described and the factors which influence results fully discussed.

The prognostic value of the complement fixation test is indicated and it is stated that if the reaction to the test is strongly positive twelve months after an operation, it is proof of the presence of another cyst. It would be well, therefore, if all patients who have been subjected to operation, would return after twelve months for reinvestigation.

A short chapter has been devoted to the discussion of hydatid anaphylaxis about which the author's views are plainly stated. A knowledge of the subject is necessary to the clinician to enable him the better to interpret the various phenomena associated with hydatid disease.

The portion of the book devoted to hydatid disease of the special organs is of no less merit than the preceding pages. Hydatid cysts of the liver and their complications are dealt with in an exhaustive manner and the same may be

said for pulmonary cysts and cysts of the other organs and tissues. Throughout these chapters the distinction between primary and secondary echinococcosis is repeatedly emphasized and the value of the serological tests constantly demonstrated.

In the chapter devoted to hydatid cysts involving the biliary passages it is shown that some degree of intra-biliary rupture is the commonest of all complications in liver infestations. In these cases the passage of hydatid material along the bile ducts may cause attacks of pain and jaundice closely resembling those due to gall stones and there is no doubt that jaundice with hepatomegaly in Australia is as apt to be due to hydatid disease of the liver as to gall stones in the bile duct. It is obviously important to examine the stools for hydatid or other pathological material and to carry out serological tests. One should, however, remember that the coexistence of hydatid of the liver and gall stones is not uncommon. Intrathoracic rupture is a common termination of hepatic cysts, but, as the author points out, unless the clinician is familiar with the vagaries of hydatid disease, the diagnosis may be overlooked.

In Chapter XIV Dr. Dew treats this aspect of the disease clearly and his account should appeal especially to the physician. One still hears mention of cysts of the pelvic organs, such as the prostate, bladder and uterus, as though they were due to primary infestation. Dr. Dew shows that the great majority of cysts of the pelvis and also of the peritoneum are due to secondary echinococcus infection. Cysts in these situations should not be considered primary until the rest of the abdomen and especially the liver and spleen have been carefully examined.

Chapter XIX opens with a discussion on the incidence of cysts in the lungs as compared with the liver. There is no doubt that lung infestation is commoner than is generally believed. The other chapters devoted to hydatids of the lungs and their complications cover every possible manifestation of the disease of these organs and the appropriate treatment. Owing to the rarity of hydatid of the brain many surgeons, even in Australia, have had no personal experience in their management. In Chapter XXIII there is a complete *résumé* of all that is known of cerebral infestations, not only in regard to age incidence, pathology and symptomatology, but also in regard to treatment.

The manner of growth of hydatids in bone is always difficult to understand, but Dew has clarified the subject in Chapter XXIV which is well illustrated with photographs and skiagrams.

The sections dealing with the treatment of hydatid disease in its various situations and complications are of the greatest practical value. Dew strongly advocates formalization of all cysts before evacuation and illustrates a special syringe which he has devised for the purpose in order to avoid withdrawal of the needle. The difficult question of drainage is discussed according to the situation of the cyst and the complications to which it is liable. Where possible drainage should be avoided, but in liver and pulmonary cysts, if there is any doubt, it is generally wiser to provide for some form of drainage. In operating for hydatid of the liver the surgeon will often find it very helpful first to make an exploratory incision in order to locate the point where the cyst is nearest the surface and where it would be opened to greatest advantage, allowing, of course, for retraction of the cyst after it is evacuated. Severe hemorrhage after evacuating a pulmonary cyst is, according to Sir A. MacCormick, best arrested by inserting a large tube into the pleural cavity. This allows cold air to pass to and fro and secures collapse of the lung. The final chapter is devoted to the consideration of that rare form of hydatid disease in regard to which controversy still prevails, the *Echinococcus alveolaris*, a form which the author states definitely has never been seen in Australia, though multilocular forms simulating the alveolar have mistakenly been identified with it. The author advances the obvious objection to the theory that the alveolar form represents a distinct species of echinococcus peculiar to man, a theory long supported by such an authority as Dévé, that were this the case it would be impossible to insure continuity of the species.



This work is entirely Australian and is a monument of industry. It gives full credit to all that has been published in Australia as well as in other countries on hydatid disease and it must surely become a valuable book of reference in any part of the world where the disease prevails. No practitioner of medicine or surgery in Australasia can afford to be without it. No more concise and at the same time comprehensive work on hydatid disease has ever appeared in the English language.

No small meed of praise is due to the publishers for the manner in which the book is produced, the clarity of the type and the excellent reproduction of the many figures contributing very materially to the success of the work.

B. T. EDYE.

I. CLUNIES ROSS.

#### A BOOK OF ESSAYS ON SCIENTIFIC SUBJECTS.

J. B. S. HALDANE, well known as a biochemist, has published a book, "Possible Worlds and Other Essays," which is a collection of articles on scientific subjects.<sup>1</sup> Most of these articles have appeared in popular magazines in England and America. Dr. Haldane justifies their publication by the statement that the public has a right to know what is going on inside the laboratories, for some of which it pays. Some of the essays are on medical subjects and others are of a speculative nature. The majority could be appreciated by an educated non-medical individual, but for the full appreciation of several a modicum of medical and biochemical knowledge is necessary. Medical practitioners will appreciate these essays; they are written in a most attractive style. The author chooses a subject, he states a few facts about it and proceeds to illustrate it sometimes in a homely fashion and sometimes by a forceful appeal to the imagination. Like a scorpion, most of these essays have a sting in the tail and the concluding paragraph enunciates some truth which should be widely known and believed. One chapter is entitled: "On Being the Right Size." The author wishes to show that for every type of animal there is a most convenient size and that a large change in size inevitably carries with it a change in form. He refers to Giant Pope and Giant Pagan as illustrated in the "Pilgrim's Progress" of his childhood. These monsters were ten times as high, as wide and as thick as Christian. Thus their weight was a thousand times his. Unfortunately the cross sections of their bones were only a hundred times those of Christian, so that every square inch of giant bone had to support ten times the weight borne by a square inch of human bone. As the human thigh bone breaks under about ten times the human weight, Pope and Pagan would have broken their thigh bones every time they took a step. "This was doubtless why they were sitting down in the picture I remember. But it lessens one's respect for Christian and Jack the Giant Killer." In another chapter, "On Being One's Own Rabbit," the author describes observations made on himself as the "rabbit." It makes good reading. "During last year about one part in four million of the national revenue was employed during some weeks in keeping me awake during attacks of tetany and in analysing blood samples drawn from me in the course of them. It has been the object of this article to suggest that one four-millionth of the nation's income was well spent." Other subjects include "Oxygen Want," "Cancer Research," "Food Poisoning," "The Future of Research," "Scientific Research for Amateurs" and so on. Among the chapters of a more speculative nature are those on "Possible Worlds," "The Last Judgement," "When I am Dead" and some others. Like a good scientist, Haldane accepts only what his reason tells him is possible, his imagination carries him on in logical fashion from known facts and finally lands him in Venus forty million years hence.

It is unnecessary to make further description of this book. It is one which will be a delight to the intelligent

reader. It grips the attention, but since each article is self-contained, it may be put down at a chapter's end without disadvantage. No purchaser will fail to recommend it to his friends, he will be chary of lending it, for it is one of those books which people forget to return.

#### THE USE OF FASCIAL GRAFTS.

IN "Fascial Grafting in Principle and Practice" H. C. Orrin describes the histological and anatomical structure of *fascia lata* and the relative importance of different areas of this structure for particular purposes, such as neurolysis, the treatment of adherent scars, arthroplasty and repairing defects in hollow viscera.<sup>1</sup> *Fascia lata* tends to contract slightly after removal from the body, but does not cause the development of excessive fibrous tissue when used as an implant. Except when it is used as an investment for nerve tissue, the graft should be under slight tension and the residual gap in the *fascia lata* should always be closed. The author here joins issue with many other surgeons. The chapter dealing in tendon repairs and replacements contains many useful practical suggestions. The author suggests the use of *fascia lata* in arthroplasty for tuberculosis in the hip and knee. No reason is advanced for this departure from generally accepted principles in this disease. The method of using two layers of *fascia lata* in arthroplasty of the hip is clearly described. In the treatment of *hallux valgus* it seems unnecessary to remove fascia from the thigh when it is so easy to secure a sufficient flap from the region being operated upon and it is difficult to understand why the author uses kangaroo tendon and chromicized gut to suture the fascia, when a living suture is so readily accessible during the operation. After describing the wide range of usefulness of fascial transplants, the author asserts that the mucous membranes of hollow viscera regenerate to cover the transplant and that the life of the transplant is not necessarily jeopardized by sepsis. There was only one misprint, namely on page 56, line nine, where a reference is given to page 66 as if it had preceded this page. Illustrations are excellent and the whole work is the best presentation we have seen of this exceedingly useful branch of surgery. It should appeal alike to the general practitioner and the specialist.

#### THE FEEDING OF INFANTS.

K. H. TALLERMAN AND C. K. J. HAMILTON in "The Principles of Infant Nutrition" have produced a volume of the greatest value and interest to all who have to deal with the feeding of infants in health and disease.<sup>2</sup>

The first chapter consists of a detailed account of the physiology and bacteriology of the infant digestive tract and this, together with their own clinical observations, has been used to lay down definite principles for infant feeding and nutrition. After critical examination of the various dietaries and methods of feeding, they have been content to point out certain "fallacies" and to define the limits within which such feeding methods might be employed.

The food requirements differ considerably in the breast fed, the artificially fed and in the infant with acute or chronic nutritional disturbance, but the authors recommend that these requirements be estimated by the caloric method, by a simple calculation and so avoid the grosser errors in under and over feeding.

The variations from normal digestion and the food treatments are carefully considered and explained.

There are a short chapter on weaning and on diet from the age of nine months to two years, a useful appendix and an extensive bibliography.

<sup>1</sup> "Fascial Grafting in Principle and Practice: An Illustrated manual of Procedure and Technique," by H. C. Orrin, O.B.E., F.R.C.S. (Edinburgh); 1928. Edinburgh: Oliver and Boyd. Royal 8vo., pp. 92. Price: 7s. 6d. net.

<sup>2</sup> "The Principles of Infant Nutrition and their Practical Application," by K. H. Tallerman, M.C., M.D. (Cantab.), M.R.C.P. (London), and C. K. J. Hamilton, M.C., B.M. (Oxon), M.R.C.P. (London); 1928. London: William Heinemann (Medical Books), Limited. Demy 8vo., pp. 190. Price: 10s. net.

<sup>1</sup> "Possible Worlds and Other Essays," by J. B. S. Haldane; 1927. London: Chatto and Windus; Sydney: Angus and Robertson, Limited. Crown 8vo., pp. 320. Price: 10s. net.



## The Medical Journal of Australia

SATURDAY, NOVEMBER 10, 1928.

### The White Man in the Pacific.

A FEW weeks ago we published a thoughtful and temperate article on the medical conditions of the natives in the Pacific islands by Dr. S. M. Lambert. The article is of importance, not only because the subject is the concern of Australia, but also because its author, after having become favourably known to the medical profession in the Commonwealth as a most versatile and competent medical officer of the International Health Board of the Rockefeller Foundation, has continued his studies of men and disease in the Pacific. Dr. Lambert comes to a conclusion that is at variance with the findings of the majority of those who have endeavoured to form an idea of the effect of the advent of the white man on the native. He states that the available evidence seems to indicate that the natives of the Pacific can survive and are increasing. He finds that they are acquiring an immunity to many imported diseases. Dr. Lambert has avoided the error that has been made in the past by many others of basing opinions on impressions. He has gathered all the accurate information in existence in regard to population, death rates and birth rates and by inference, direct observation and a critical survey of the previous reports he has been able to demonstrate that, notwithstanding some devastating epidemics, the natives in the islands, except those of the New Hebrides group, have been able to hold their own.

In the year 1926 a conference on the health conditions in the Pacific was held in Melbourne. This conference was attended by representatives of all countries having interests in the Pacific. It was decided to approach the League of Nations and to suggest that a commission should be appointed to examine the medical problems of the Pacific and to coordinate the investigations that are being carried

out. The Health Organization of the League of Nations recognized that this is a matter that comes within its purview. The policy of the various branches of the League of Nations is to collect information through channels that are not only reliable, but are acceptable to all interested parties and to deal with the information as soon as it is available. A commission of two experts has been appointed. Dr. R. W. Cilento has been chosen as the British representative. His experience in the Pacific islands and his position as Director of the Division of Tropical Hygiene in the Commonwealth Department of Health render him eminently suited for the task. His colleague is a Frenchman, Dr. Paul Hermant, who has had an extensive experience of the east and of the medical problems of the tropics. We understand that the two members of the commission have left for Fiji, New Caledonia and New Hebrides. They will return to Australia in two months and will visit Papua, New Guinea and the British Solomon Islands early in 1929. They will begin their studies by visiting Fiji where Dr. Lambert will place the information he has collected at their disposal and where he will be in a position to demonstrate the working of the remedy that he has initiated under the auspices of the International Health Board. The remedy is a medical school for the training of native practitioners. Dr. Lambert has arrived at the conclusion that if western medicine can serve to preserve the health of the native races, the natives themselves must apply it. It is a large experiment in preventive medicine.

Dr. Lambert's message that the virility of the native races, at all events in the majority of the islands, is sufficient to withstand the devastating effects of contact with the white man is reassuring. Tuberculosis, morbilli, influenza, variola, enteric fever and dysentery, syphilis and gonorrhœa are the harvest of the white man's sowing. We must recognize the sad fact that the white man has not proved himself a friend of the native. He has abused his strength and has introduced western conceptions of honour and morality in social as well as in commercial transactions. The warlike spirit of the natives has no doubt led to the introduction of customs, such as head hunting and cannibalism,

that offend our own codes. In other respects, however, the influence of the white man has been destructive to the simple codes of the natives and harmful to their well-being. In regard to the imported diseases it appears that Dr. Cilento, Dr. Ritchie, Dr. Strong and Dr. Lambert place tuberculosis among the most serious plagues with which the medical service has to contend. Epidemic diseases have been introduced into the islands from time to time during the whole period since our ships have visited them. History has many fearful records of the appalling results of these outbreaks. Dr. Lambert points out that the greater part of the native population, being inaccessible as far as vaccination against small pox is concerned, is protected only by quarantine at the ports of entry. Measles and influenza have played havoc with the population on many islands on numerous occasions. The white man has inflicted great damage by the introduction of venereal diseases. It is true that some of the early reports exaggerated the extent of the harm done, since there was confusion between syphilis and yaws. Moreover, the immunity that yaws confers against syphilis, is probably the explanation of the rarity of the latter disease. It appears that yaws or frambœsia was not introduced by Europeans.

The medical problems of the Pacific are difficult and manifold. The white man has interfered and it is now too late for him to withdraw. The greatest care must be taken to prevent further damage being inflicted on these simple, child-like people in our enthusiasm to preserve them. The native still trusts the white man, strange though this may be. That trust is not misplaced when men like Dr. Lambert, Dr. Cilento and Dr. Harment are straining every nerve to remedy the evil that has arisen from the white man's contact with the Pacific islander.

### Current Comment.

#### DIET AND EXPERIMENTAL NEPHRITIS.

REFERENCE has repeatedly been made in these pages to the influence of protein in the production of lesions of the kidney. It has been shown that pathological changes result from the administration to animals of amino acids. Findings of this descrip-

tion not unnaturally have an influence on the treatment meted out to patients suffering from nephritis. At the same time it is risky to apply experimental observations to clinical conditions in the absence of a clear understanding of how the observed facts may be explained. Some workers have studied the effect of diet by observing the result of giving certain articles of food to animals in whom experimental nephritis was produced. In 1905 Ellinger observed that when rabbits were fed on carrots, they were resistant to doses of cantharidin which would invariably bring about a severe hæmorrhagic nephritis in rabbits fed on oats. He produced evidence to show that the protection was due to the alkalinity of the urine caused by the ingestion of the carrots. Salant and Bengis in 1917 confirmed these findings. They experimented with cabbage leaves, but obtained no evidence of protection afforded by them. Maclean, Forrest Smith and Urquhart in 1926 found that cabbage leaves given to rabbits kept them in good health when they were taking a high protein diet which otherwise caused severe albuminuria followed by death. In most of the animals the urine had a neutral reaction, but it was found that the reaction might be acid or alkaline without the appearance of albuminuria provided green food was given. S. J. Cowell in a recent report states that these observations may be related and he records some work carried out by him with cabbage feeding of animals in whom renal lesions were produced by the injection of a 1% solution of uranium nitrate.<sup>1</sup> The severity of the renal damage produced by the injections was judged by the rise in the non-protein nitrogen content of the blood. The normal diet for a day consisted of equal parts by weight of bran and oats with fifty or sometimes twenty-five grammes of cabbage. When a high protein diet was used, it consisted of one part by weight of bran, one of lean meat or liver and two of oats. When cabbage alone was given, 500 grammes were necessary to prevent loss of weight. Nine experiments were carried out and it was found that in eight of them the cabbage diet exerted a definitely protective influence against the poison. Control rabbits on normal diet were injected at the same time in every instance. One or two examples may be quoted. A rabbit weighing 1,750 grammes received an injection of one milligramme of uranium; it was fed on a daily diet of 500 grammes of cabbage; on the fifth day its non-protein nitrogen was 85 milligrammes per hundred cubic centimetres of blood and on the thirteenth day the figure was 51 milligrammes; it manifested no gross symptoms. Another rabbit, weighing 1,150 grammes, received 0.5 milligramme of uranium and was fed on equal parts of oats and bran with 50 grammes of cabbage; on the fourth day its non-protein nitrogen was 73 milligrammes and on the eighth day it was 350 milligrammes; the animal died. An interesting exception was found in the ninth experiment. A rabbit weighing 1,150 grammes died on the eighth day after the injection of 0.5

<sup>1</sup> *The British Journal of Experimental Pathology*, August, 1928.

milligramme of uranium, in spite of receiving a diet composed solely of 400 grammes of cabbage. Cowell states that no explanation of this one exception was forthcoming. Presumably this statement covers *post mortem* findings, for, although no mention is made of *post mortem* examinations, it is hardly likely that this would be omitted. Cowell refers to several possible explanations of the beneficial effect of cabbage. In the first place it may be associated with the particular mineral salts contained in the cabbage, possibly with the tendency of this food to produce an alkaline urine. In the second place the cabbage diet, containing less protein than the diet of oats and bran, may relieve the kidneys of some of their excretory activities and thus allow them in their damaged condition greater opportunities of recovery. In the third place cabbage may contain some more or less specific substance which in some way antagonizes the toxic action of uranium towards the renal epithelium, or increases the capacity of damaged renal elements to eliminate waste products. Cowell adds that these do not exhaust the possibilities and he mentions the suggestion of Salant and Swanson, that protective foodstuffs may neutralize some toxic metabolic product elaborated in the intestine, and that of Maclean and his colleagues, that vitamins must be the factor responsible for the protective effect of cabbage against nephritis otherwise produced in the rabbit by high protein diets.

Because of the possible view that the greater part of the actual damage to the kidney tubules occurs during the first few days following the uranium injection and that it is chiefly during this period that the protein content of the diet is of importance, another experiment was undertaken. One of three rabbits was given a diet of nothing but cabbage, the second was given oats and bran with fifty grammes of cabbage and the third received a diet containing equal parts of oats and bran with 20% of dried meat and fifty grammes of cabbage. After three days each animal received an injection of one milligramme of uranium. The non-protein nitrogen before the injection was respectively 52, 43 and 43 milligrammes for the animal on the meat diet, the one on the cabbage diet and the one on the control diet (oats and bran). On the third day after the injection these figures were 92, 45 and 70. After this day the diets were changed. The animal on the meat diet was given cabbage and the one on cabbage was given the control diet; the animal on the control diet was kept on that diet. On the seventh day after injection the non-protein nitrogen was 182, 133 and 130 respectively; on the tenth day the figures were 64, 84 and 333; on the twentieth day they were 43 and 42 for the first two animals and the third had died. Cowell points out that there is a period of several days following the injection during which the diet can still exert a pronounced influence on the toxic effects of uranium. He concludes that it is more likely that the protective effect of cabbage is due to some positive factor contained in the cabbage than that the cabbage acts merely by virtue of its containing but a small

proportion of protein. The observations made were confined to those which have been mentioned. Some useful information might have resulted if the hydrogen ion concentration of the urine had been determined before the injection of the uranium and if some endeavour had been made to determine the fate of the uranium, especially its rate of excretion. In this way it might have been possible to account for the death of the rabbit in the first set of experiments for which no explanation could be found.

Some experiments were made for the purpose of discovering whether the capacity of a foodstuff to insure an alkaline urine is sufficient to endow it with a protective effect. The results were inconclusive. Cowell states that the balance of evidence is against the adoption of such a view. He also tried to separate a protective factor by making a watery extract. When the extract was used in a concentrated form, it had a protective effect. When the extract was dialysed against running water for seventy-two hours, concentrated to the consistency of a paste and mixed with bran and oats, a result was obtained in one experiment which indicated some protective effect, but when the experiment was repeated, no protective effect whatever was found.

Cowell is careful not to overestimate the importance of his findings. He states that no claim can be made at present to have established the existence of a specific factor, but he points out that the cabbage diet does afford considerable protection from the severe effects produced by uranium nitrate in rabbits. He adds that he has offered "some evidence" that this protective effect of the cabbage diet is not due to its low protein content nor to its capacity for producing an alkaline urine.

This piece of work opens up the whole question of the relationship of protein feeding to nephritis. Cowell's findings, as he states, have not established anything definite, but they indicate the lines along which future work may be undertaken. It is well to remember the views of Maclean that the usually accepted doctrine that protein is detrimental requires investigation in the light of modern physiological teaching. Holding Anderson also in discussing certain experiments of his own stated that it could not be argued with certainty that the protein causes the damage, because other possible factors were not controlled. He thought that the question of a deficiency disease ought to be considered. Anderson's work was discussed in some detail in our issue of June 5, 1926. It will be remembered that Newburgh and Marsh showed that when certain amino acids are injected into the circulation, definite kidney lesions result. They quite properly pointed out that it was doubtful whether information obtained by intravenous injection has any bearing on effects attributed to excesses arriving through normal channels. If it can be proved that there are substances which will have a protective action on renal cells already damaged by toxic substances, be they amino acids or other materials of a poisonous nature, definite progress will be made in the treatment of kidney disease.



## Abstracts from Current Medical Literature.

### OPHTHALMOLOGY.

#### Acute Retrobulbar Neuritis.

A. FUCHS (*Wiener Medizinische Wochenschrift*, July 7, 1928) refers to the work of Wagner-Jauregg on malaria therapy in the treatment of general paralysis. He has found that a similar attack of fever will affect the course of acute retrobulbar neuritis. The histories of two patients are given. While spontaneous improvement in this condition is fairly frequent, both these patients had been at a standstill for a considerable period and recovery did not occur until after severe febrile reactions produced by protein injections. The author has used this treatment for some time for chronic refractory nervous lesions, but never for an acute nervous affection. Good results have also been obtained with patients suffering from tabetic optic atrophy. He considers that equally good results will be seen in acute conditions, especially if they seem to be refractory.

#### The Curative Value of Aspiration of the Vitreous.

ZUR NEDDEN (*Archives of Ophthalmology*, March, 1928) strongly recommends aspiration of the vitreous for several pathological conditions. He uses a "Record" syringe with a cannula from 0.3 to 0.8 millimetre in thickness. The tip is acutely pointed and lancet-shaped. The cannula is directed to the centre of the vitreous from the puncture six millimetres from the limbus. Best results are seen in subacute inflammation of progressive infection. Twice daily the author aspirates 0.5 cubic centimetre, thus assuring a speedy healing. The healing value depends on the removal of germs and poisons from the eye and from the bactericidal substances of the blood transferred to the interior of the eye with the replacement of fresh vitreous. It is analogous to Bier's treatment by hyperæmia. Good results follow aspiration in cases of traumatic vitreous bleeding. If after eight or ten days no noticeable clearing has taken place, there should be no delay in aspirating to prevent the organization that so often follows in the vitreous. The first aspiration is usually 0.2 cubic centimetre, at the second after a week or two 0.5 cubic centimetre is removed. In spontaneous hæmorrhage greater care is demanded, but in many instances it is beneficial. Aspiration has also been used successfully in cases of diffuse chorioiditis, optic neuritis, embolism of the central artery, traumatic glaucoma following contusion of the eyeball and in spontaneous subluxation of the lens complicated by glaucoma. Detachment of the retina need not be feared, but the method is to be condemned in high myopia. The author has had experience in three hundred cases.

#### Closure of Lids after Infiltration Paresis.

W. D. GILL (*Archives of Ophthalmology*, May, 1928) suggests a means of keeping closed the eyelids after cataract extraction with infiltration akinesis of the orbicularis. The method consists in placing a drop of collodion on a group of eyelashes at its mid-portion after drawing the upper lid down. The skin must be dry or the collodion will not adhere.

#### Radium Treatment of Cancer of Eyelids.

G. T. PACK (*Archives of Ophthalmology*, May, 1928) describes the methods employed in the treatment of cancers of the orbito-palpebral region by radium at the Radium Institute of the University of Paris. A small portion of the growth is always taken for microscopical examination for statistical purposes. Previous treatment by radium or X rays precludes admission for treatment, for the reason that it confuses radium therapists. It is important to give a correct initial dose, for if insufficient, it is impossible to make another attempt with any certainty of success. A dose, incorrectly timed or spaced, may give rise to a permanent radio-resistance. Röntgen rays are never successful after radium has failed, but patients in whose treatment X rays have failed, are occasionally susceptible to radium treatment. Röntgen therapy should precede treatment by radium, if the two are purposely planned. If the ulcer involves most of the orbit and is adherent to bone, radium cure is doubtful owing to unequal radiation. Röntgen therapy is then the method which should be chosen. More or less radio-necrosis of bone is the inevitable sequel to radium therapy of these adherent ulcers; X rays are less likely to produce necrosis. When the eyeball is involved in the growth, it is unwise to enucleate; the eye *in situ* will obviate radio-necrosis. The total proportion of cures was 66.6%; of cancers localized to the eyelids 72.9% were cured.

#### A Modified Motalis Operation for Ptosis.

D. B. KIRBY (*Archives of Ophthalmology*, July, 1928) has discovered that the Motalis operation for ptosis can be performed through the skin incision alone. A horizontal incision, twenty-five millimetres long, is made through skin and orbicularis to the tarsus eight millimetres above the lid margin. The aponeurosis of the levator is followed backwards eight millimetres above the tarsal border. Here a horizontal incision is made through the levator exposing Tenon's capsule, the conjunctiva of the fornix being held down out of the way by a retraction suture. An opening is made in Tenon's capsule at the temporal side of the superior rectus and a hook slipped beneath the muscle. The latter is exposed so that a tongue of muscle and tendon four millimetres wide by ten millimetres long can be fashioned. A double armed silk suture

is passed through two millimetres from its end. The muscle slip is transplanted to a pouch prepared for it anterior to the tarsus. The needles are passed downwards, piercing the lid margin just nasal to the centre of the cornea and the suture tied drawing the muscle tongue and lifting the lid to the required extent. A second suture is used to support the first and to secure firm apposition to the tarsus. The skin incision is closed by sutures. Good results were obtained in twelve cases.

#### Dilatation of the Lachrymal Duct.

As a means of rapid dilatation of an obstructed nasal duct, A. L. BROWN has devised a probe composed of sea tangle which, when moist, swells up to six or seven times its original calibre (*Archives of Ophthalmology*, July, 1928). A probe of this material 8.25 centimetres (three and a half inches) long and the calibre of a No. 1 Bourman probe is grasped near its tip with mosquito forceps and inserted into the lower punctum and pushed along by short rapid movements into the duct. A strand of thread is passed through a hole in the extremity to facilitate removal. It is left in for about half an hour.

#### Ultra-Violet Light in the Treatment of Ophthalmic Disease.

W. S. DUKE-ELDER (*British Journal of Ophthalmology*, June and July, 1928) reports the methods and results of light treatment in a series of four hundred and twenty-five cases. With a mercury vapour lamp running on 220 volts, with two to three amperes, at a distance of one metre, the average duration of a commencing dose is three minutes. The body is divided into three areas, the chest and front of the abdomen, the back and the front and back of the legs. After the initial dose the patient attends the clinic three times a week, when one of the three areas is exposed. Thus an optimum effect is produced and a maximal increase in the hæmobactericidal power is obtained. The dose is gradually raised to nine or twelve minutes as the patient develops tolerance. After three or four weeks the carbon arc is employed which gives a more intense output to the longer and more penetrating rays. Apart from the local effect on the diseased condition in the eye, the general tonic effect of ultra-violet radiation is very pronounced in most cases. Over-dosage gives an erythema of the third or fourth degree with oedema and tenderness of the skin and greater desquamation. During radiation goggles of Crookes's glass with side pieces should always be worn. The patients treated included 102 with iritis and iridocyclitis, 104 with phlyctenular keratitis, 23 with recurrent corneal ulcers and fewer examples of many other conditions. In summing up the author states that the method is an adjunct of considerable value to the ordinary routine therapeutic measures. In discussion local phototherapy, he states that the action of ultra-violet light is



primarily abiotic, that is destructive and while in diseases of the conjunctiva and cornea there is an end which is desired when proper control is exercised. It is a different matter when dealing with the lens. In any technique of local phototherapy it is essential that the lens be excluded from the path of the incident rays. A special ophthalmic radiation lamp is employed with a mercury vapour lamp and provided with an optical system of quartz. With this a beam of considerable intensity and any desired size can be used and its precise incidence upon the eye can be observed through the binocular microscope. Eserine may be used as an additional protection to the lens. In radiating the cornea extreme care must be exercised with the dosage. Trial should be made to test the erythema dose on the skin of the arm in each patient. It may be necessary to start with an average dose of three minutes. The treatment was applied to various forms of corneal ulcer and to diseases of the conjunctiva and lids and a few patients with episcleritis. The clinical use of local radiation with ultra-violet light should be limited to these conditions. In selected patients with these conditions its effect is often dramatic.

#### LARYNGOLOGY AND OTOTOLOGY.

##### Posterior (Mastoid) Drainage in Acute Suppuration of the Middle Ear.

DAN MCKENZIE (*Journal of Laryngology and Otology*, April, 1928) advocates early drainage through the mastoid antrum in cases of acute suppuration of the middle ear. He realizes that this treatment is against the accepted practice and that in acute infection, even when involving the mastoid, spontaneous healing does occur. The number of cases in which chronic suppuration occurs, in his opinion outweighs those in which spontaneous recovery occurs. Ten patients with mastoid symptoms and twenty-one with only mastoid tenderness on hard pressure have been operated upon. At operation the antrum is first exposed. If any surrounding cells show any evidence of inflammation, they are thoroughly drained right down to the apex. The *aditus* is curetted and the middle ear cavity is douched gently by way of the *aditus* through the paracentesis opening of the drum. Injection of 3% to 5% argyrol solution hastens recovery. A tube is placed in the antrum and the rest of the wound is closed. The tube is removed in three days and the sinus is kept open by daily swabbings till the discharge is serous, when it is allowed to close. The discharge from the meatus usually ceases in a few days, from the antrum in from two to four weeks. Regarding complications Continental observers have reported persistent fistula, but this has not occurred in the author's series. Two patients contracted erysipelas, but recovered, in one a fatal meningitis occurred, two

required a second operation. The indications in the author's opinion are: (i) persistent pyrexia, pain and headache after free meatal drainage; (ii) the occurrence of acute otitis when the patient is seriously deaf in the other ear; (iii) the occurrence of mastoiditis in a patient with double acute otitis, in these circumstances the second mastoid antrum should be drained; (iv) persistence of discharge after free meatal drainage with signs of inflammation in the middle ear cavity.

##### Cavity in the Bony Nasal Septum and the Crista Galli.

VIRGIL J. SCHWARTZ (*The Laryngoscope*, May, 1928) reports the occurrence of a cavity containing fluid in the bony nasal septum and the *crista galli*. He can find no record of any previous case in English or German literature. The patient, a male, aged twenty years, complained of long-standing nasal obstruction. Examination revealed a thickened and deflected septum. A submucous resection of the septum was performed. When the cartilage had been removed, the bone was noticed to be thickened. On removal of the anterior portion a considerable quantity of thick greyish fluid flowed from the bone. Probing revealed a cavity twelve millimetres (half an inch) long and six millimetres (quarter of an inch) wide, extending upwards to a level more than one centimetre above the cribriform plate. To investigate the incidence of the such cavities in the septum and *crista galli* 807 X ray plates of nasal sinuses were examined. In 64% of these no abnormality was discovered, in 18% loose cancellous bone was seen in the *crista galli*, in 17% a pneumatized *crista galli* was seen and in 2% a cavity was found in the nasal septum with or without a pneumatized *crista galli*. Some of these septal cavities were connected with the frontal sinus, some with the sphenoidal sinus.

##### Fibroma Arising from the Jugular Bulb.

GEORGE W. MACKENZIE (*The Laryngoscope*, April, 1928) reports a fibroma of the jugular bulb which invaded the middle ear cavity. The patient, a girl of eighteen years, complained of some impairment of hearing in the affected side. Apart from periodic attacks of hay fever no other symptoms were present and clinical examination revealed a normal nose and throat. The deafness was found to be of middle ear type. The ear drum was intact, but dull and opaque. X ray examination of the mastoid processes revealed a slight increase in density of the cells of the affected side. A year later a small red swelling was noted in the depth of the canal inferiorly at the level of and external to the drum head. Two years later pain was first complained of and was transient. A year after this opaque blood-stained discharge was noted and, as the growth was slightly increased in size, a portion was removed by snare for

examination. Removal caused profuse spurting hæmorrhage which had to be controlled by firm packing. A month later a radical mastoid operation was performed to remove the growth. The mastoid cells manifested hæmasiderosis which the author considers the result of previous hæmorrhage and packing. Bony structure was normal and no infective process was found. The growth was cleared and found to be attached to the jugular bulb. Removal caused profuse hæmorrhage which necessitated firm packing for nine days. Healing was rapid and convalescence uneventful. Hearing was not further impaired by operation. The pathologist reported that the tumour was of connective tissue with intact epithelial covering. The growth was entirely cellular, of cells of uniform size and probably benign.

##### Radiology of the Labyrinth.

H. GRAHAM HODGSON (*Journal of Laryngology and Otology*, February, 1928) describes radiological investigations undertaken by him to demonstrate bony labyrinthine changes, particularly in otosclerosis. The chief difficulty was to perfect a technique which gave a clear picture of every part of the labyrinthine capsule in the skiagram. After much experimental work on skulls and patients a modification of Stenver's technique in his work of tumours of the eighth nerve was adopted. The patient's position is fixed by a special head clamp and is fully described and illustrated. A finely focused tube and a Potter-Bucky diaphragm are essential. No sclerosis has been demonstrated in patients with otosclerosis, but the labyrinthine lesion appears to be a rarefaction or porosis of the bony capsule. Thus the term otosclerosis is a misnomer. In early and moderate degrees of the disease this rarefaction seems to involve the cochlear apparatus (anterior labyrinth) alone, but in advanced cases the posterior part of the labyrinth is also involved. Several plates are reproduced and the technique of examining these plates is fully described. The author realizes that this work is handicapped unless it is possible to obtain after death the petrous bones of patients examined and to compare the *post mortem* with the previous radiological findings.

##### Improved Anæsthesia for Antrum Puncture.

M. C. MYERSON (*The Laryngoscope*, July, 1928) details his technique of inducing local anæsthesia for antrum puncture. "Novocain" is the anæsthetic used. It is claimed that it is safer, more rapid and a better anæsthetic than cocaine. Of a 1% solution 1-8 mls (thirty minims) with adrenalin added are injected into the mesial surface of the inferior turbinate high up at its anterior end, the point of the needle being in contact with the lateral nasal wall. Anæsthesia is usually produced in three minutes. If a greater quantity of the solution is used, the area anæsthetized extends to the palate of the incisor teeth.

## British Medical Association News.

### SCIENTIFIC.

A MEETING OF THE SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Children's Hospital, Adelaide, on July 26, 1928. The meeting took the form of a series of clinical demonstrations by members of the honorary staff.

#### Congenital Syphilis.

Dr. R. L. T. GRANT showed a boy, aged one year and two months, who had suddenly become affected by paralysis of the left side of the face, left arm and hand and left foot. Choreiform movements of the left arm had also occurred. Dr. B. F. Moore had made an examination of the fundi oculorum with the patient under general anaesthesia. He had reported the presence of secondary optic atrophy and disseminated chorioiditis. There was a history of convulsions of two days' duration four months before the onset of the paralysis. The blood serum had yielded a positive response to the Wassermann test. The patient had been treated by intramuscular injections of "Sulpharsenol" and "Bismostab." In two months the paralysis had almost completely disappeared, leaving only slight paresis of the left side of the face.

#### Congenital Pulmonary Stenosis.

Dr. Grant also showed a girl, aged eight years, who was suffering from congenital pulmonary stenosis. The patient also had an unusual deformity of the sternum.

#### Pernicious Anæmia.

Dr. H. MAYO showed a child, aged six years, who had an enlarged spleen and a blood picture of pernicious anæmia and who had gastric achylia. The child had improved considerably on liver feeding.

#### Œdema of Unknown Origin.

Dr. Mayo's second patient was a boy who was presented for diagnosis. He was two years of age and he had generalized œdema, the onset of which was seven months previously, following an operation for the cure of a hydrocele. At first the thighs and scrotum only had been affected and in transient attacks. The œdema had become general and an enlargement of the liver was present with ascites. Nothing abnormal had been found in the urine. X ray examination revealed an enlarged heart and infiltration of the lungs which had been increasing. Pyrexia had occurred at the onset of the illness, but had been slight.

#### Arthritis of the Hip.

Dr. Mayo's third patient was an infant, aged nine months, who had suffered from serous effusion into the left hip joint associated with slight changes in the neck of the femur. The condition had been one of serous arthritis of the hip joint. Recovery had taken place without operation.

#### Infantile Scurvy.

Dr. K. S. HITZEL showed a boy, aged three years, who had had infantile scurvy. This child's condition was illustrated by a series of skiagrams illustrating the typical changes of this condition. There had also been bleeding from the gums. The child had been reared on lactone syrup milk and had also had small quantities of orange juice, but apparently not enough to prevent the onset of the condition.

#### Tuberculosis of the Hip.

Dr. H. GILBERT showed a boy, aged seven years, who had fallen out of a cart in 1923. Limping and pain had followed and had persisted and he had been treated in a country hospital as suffering from tuberculosis of the hip. In August, 1924, he had been brought to the Children's Hospital with very few physical signs and X rays had

revealed an area of rarefaction of the neck of the femur, suggesting Perthes's disease. His leg had been put up in a Thomas's hip splint.

In September, 1925, he had been readmitted with an abscess pointing above Poupert's ligament and a skiagram had revealed complete erosion of the head of the femur. In May, 1926, a skiagram had revealed advancing disease. In August, 1926, he had been transferred to the Queen Victoria Children's Hostel with a walking caliper.

In November, 1927, he had been readmitted, as an abscess had formed over the sacro-iliac joint and this had been frequently aspirated. In June, 1928, there had been limitation of movement of the right hip and X ray examination revealed an area of erosion and rarefaction in the neck of the femur.

#### Pott's Disease.

Dr. Gilbert's second patient was a boy, aged six years, who was suffering from Pott's disease complicated by spastic paraplegia in the legs. In 1925 he had had tuberculosis of the lower end of the humerus. In August, 1927, there had been noticed a deformity of the back in the dorso-lumbar region and an X ray examination had revealed collapse of the first two lumbar vertebrae. In June, 1928, a psoas abscess had developed on the right side. Treatment had been by a box splint with extension to the legs.

#### Meningocele.

Dr. Gilbert also showed an infant, aged four months, with a meningocele 6.25 centimetres (two and a half inches) in diameter, in the region of the third lumbar vertebra. It had increased steadily in size since birth and was covered by a parchment-like membrane. It had up to the present been treated by protection from pressure and spirit dressings and had epithelium growing inwards on the surface to the extent of 1.25 centimetres (half an inch) from the circumference. The baby was thriving and there was no deformity of the feet or sign of hydrocephalus. Dr. Gilbert asked for opinions as to whether and when surgical treatment should be proceeded with.

SIR HENRY NEWLAND considered that the child was an ideal subject for operative treatment owing to the excellent general condition and the state of the affected parts.

#### Osteomyelitis of the Ulna.

Dr. Gilbert's fourth case was a girl, aged eleven years, who had had osteomyelitis of the ulna. She had had pain in the right elbow for six months. An incision had been made over the olecranon and the child had been sent to the hospital six weeks later with a small sinus. This had healed with heliotherapy. Three months later the sinus had again opened and pain and limitation of movement of the elbow had been present. The Mantoux and von Pirquet tests had both yielded positive results. She had then been sent to the convalescent home for three months and had gained 4.5 kilograms (ten pounds) in weight. A month before the meeting she had been readmitted and a small sequestrum had been removed from the olecranon.

#### Hydatid of the Psoas Muscle.

Dr. G. H. BURNELL showed a girl, aged five years, who had been brought to the hospital suffering from general malaise. On examination a firm tumour had been felt in the hypochondrium. This had been regarded as a renal tumour. A pyelogram had shown that the left renal pelvis was tilted, so that the calyces were turned in a cranial direction instead of outwards and the whole of the renal pelvis was seen to be pushed up towards the thorax. It had then been thought that the tumour was involving the lower pole of the kidney and had not so far involved the pelvis or calyces. At operation the kidney had been found to be pushed high up on the diaphragm by a large tumour in the substance of the psoas muscle. This had been explored and had been found to be a large solitary hydatid cyst which had been removed complete without rupture. Recovery had been uneventful.

### Enchondroma of the Finger.

Dr. Burnell's second patient was a boy, aged eleven years, who had come to hospital in December, 1927, with a large firm tumour on the proximal phalanx of the right index finger. Examination by X rays had shown that this was an enchondroma, involving the whole of the diaphysis of the phalanx. The diaphysis had been excised, the periosteum had been left and a bone graft without periosteum, taken from a rib, had been inserted to replace the diaphysis. Examination three months and five months after operation showed that the boy possessed a very useful finger, although the function of extension was not quite complete owing to adhesions between the flexor tendon and the graft.

### Exostrophy of the Bladder and Prolapse of the Rectum.

Dr. Burnell also showed a girl, aged three and a half years, who was suffering from complete exostrophy of the bladder and prolapse of the rectum. The pubic arch was deficient and the vagina was represented merely by a dimple. Owing to the rectal prolapse transplantation of the ureters into the rectum could not be undertaken, but it was proposed to attempt to relieve the prolapse by operation and then to consider the transplantation of the ureters at a later date.

### Talipes.

Dr. L. O. Betts showed a child who had suffered from infantile hemiplegia. The child had originally been brought to hospital on account of *talipes equinus*. Tenotomy of the *tendo Achillis* had been performed and at the time of demonstration *talipes calcaneus* was present. Dr. Betts said that he showed the patient in order to emphasize the risk of tenotomy of the *tendo Achillis* in spastic children. The lengthening should be done by open operation and the after treatment should be carefully supervised in order to avoid such a result.

### Congenital Absence of Bones.

Dr. Betts also showed a girl, aged eight years, who manifested congenital absence of the upper two-thirds of the femur and of the fibula. The child walked well on a Thomas knee splint.

### Ischæmic Paralysis.

The third patient shown by Dr. Betts was a boy, aged eleven years, who had been admitted with Volkmann's ischæmic paralysis six weeks after sustaining a supra-condylar fracture which was treated by acute flexion with strapping. The usual deformity was present with moderately firm contracture. The patient had been treated by continuous stretching on a malleable splint, followed later by daily exercises and manual stretching. Good recovery had ensued with full movement and moderate power in all muscles, except for limitation in supination, due to contracture of the pronator.

### Fragilitas Ossium.

Dr. L. A. Wilson and Dr. G. R. West showed a girl, aged six years, who was suffering from *fragilitas ossium*. An arm and a leg had been fractured at birth. She had had thirty other fractures since. The child presented a deficiency of growth, blue sclerotics and an increase in the bitemporal diameter of the head. X rays revealed deficiency of lime in the bones, a distorted neck and body of the femur and multiple old fractures.

### Stricture of the Œsophagus.

Dr. Wilson and Dr. West also showed a boy aged eight years, who four months previously had swallowed caustic soda. Six weeks later he had complained of difficulty in swallowing solids, vomiting and pain over the lower sternum after a meal and he had lost weight. X ray examination revealed a stricture in about the middle of the Œsophagus, with dilatation above. Treatment had been by regular dilatation with bougies. Vomiting returned when too long an interval occurred between treatments.

### Raynaud's Disease.

Dr. Wilson's and Dr. West's third patient was a boy, aged eight years, who was suffering from Raynaud's disease. He had had gangrene of all the fingers of the right hand in 1926, of both groins in 1922, of the penis in 1922 and of the ears. In 1925 he had been anæmic and the urine passed was red. His father had had some gangrene of the penis and scrotum six years previously. The Wassermann test yielded no reaction. The patient was shown to demonstrate the peculiar distribution of the gangrene in the groins.

### Bronchiectasis.

Dr. E. BRITTON JONES and Dr. C. F. PITCHER showed a series of patients who were suffering from bronchiectasis. In each instance the left lung was either the only one involved or, as evidenced by "Lipiodol" injection, the greater degree of pathological change was present in the left lung. Clubbing of fingers of varying degree was present in all instances. No untoward symptom had occurred as a result of the "Lipiodol" injection.

### Pulmonary Fibrosis.

Dr. Britten Jones and Dr. Pitcher also showed a boy, aged six years, who was suffering from pulmonary fibrosis. There was no definite history of a primary attack of pneumonia. Slight cyanosis was present. An impaired percussion note was elicited all over both lungs. Numerous râles were present on both sides. X ray examination disclosed an indefinite opacity at the right base. "Lipiodol" failed to reveal bronchiectasis. No clubbing of the fingers was present. The patient had had a cough since infancy. He was subject to attacks of pyrexia lasting for from three to five days and during this time the cough was worse. No opportunity had occurred of carrying out an X ray examination during the bouts of pyrexia, but the supposition was that the attacks were due to slight bronchopneumonic infections occurring in the fibrosing lung.

### Antral Infection and Asthma.

Dr. EDGAR BROWN showed a boy, aged eleven years, who had had attacks of asthma for four years, especially in the winter and a constant nasal discharge. The antra had been found to be infected and double antrostomy had been done a fortnight previously. Pus from the antra yielded a culture of *Staphylococcus aureus*.

### Impetiginous Eczema.

Dr. W. UPTON showed a patient who was suffering from impetiginous eczema. The patient, a female, aged eighteen months, had had an eruption on the face for eighteen months. It was mainly confined to the "flush" areas of the cheeks and had a definite erythematous-vesicular appearance. In addition, superimposed on this condition and more especially on the periphery, were several small, round, blister-like lesions, some of which had the characteristic crusts of *impetigo contagiosa*. The submental and submaxillary glands were very swollen and tender.

### Psoriasis.

Dr. Upton's second patient was a boy, aged nine years, who had an eruption on the scalp, limbs and trunk of six months' duration. A satisfactory family history and personal history had not been obtained, as the patient was an inmate of an institution. He stated that he had had a similar eruption fifteen months previously which had disappeared with treatment. The patient was shown because it was unusual to see such an extensive eruption in one so young. Practically the whole body was affected, with the exception of the palms and soles. The scalp had several nodular lesions which on being scraped, manifested the well known characteristics of the psoriatic papule. The patient was to be admitted to hospital and an endeavour would be made to clear up the condition with internal treatment only.

### Leber's Disease.

Dr. B. F. MOORE showed two patients who were suffering from Leber's disease. The children were cousins; the elder was a girl of eleven years with advanced atrophy,



the vision being  $\frac{2}{\infty}$  in each eye, the younger was a boy of ten years with the condition less advanced. The discs of the boy manifested the changes typical of the disease and his vision had deteriorated to  $\frac{4}{\infty}$  in each eye. The family was remarkable for the number of affected females in its history and for the early age at which the disease had manifested itself.

#### Aniridia.

Dr. Moore also showed a patient affected by aniridia. The patient was a member of a family in which this condition was found; the mother, brother and a number of an older generation had been affected. Both children had been patients at the hospital and both had myopic astigmatism. The girl with correction had vision of  $\frac{9}{16}$  and  $\frac{9}{12}$  and the vision of the boy was slightly less. Both had nystagmus with rather pronounced lateral movements and lens opacities which would not materially interfere with vision.

A MEETING OF THE PÆDIATRIC SECTION OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Royal Alexandra Hospital for Children, Camperdown, on June 22, 1928, Dr. HARVEY SUTTON, the Chairman, in the chair.

#### Congenital Spasticity.

Dr. P. L. HIPSLEY showed a girl, aged nine years, who was suffering from spasticity of a congenital nature. The father was in another hospital and was supposed to be suffering from tuberculosis of the "stomach." The patient was the second in a family of seven and there was no history of tuberculosis other than that of the father. The patient had suffered from measles and from pertussis. The present illness of the patient had commenced two years previously with vague pains in the lumbar region of the spine. The child could not describe the pain. Sometimes it lasted for an hour and sometimes for a few days. It was not severe. Tiredness had no effect on the pain and the pain was not becoming more severe. The child had no night sweats and the "health was good in other ways."

On examination the child had a spastic gait with pronounced adduction of the thighs. The knee jerks were exaggerated, especially on the left side. The plantar reflex was normal and no ankle clonus was present. Some slight degree of scoliosis was noticeable. The lumbar vertebrae were somewhat rigid on flexion of the spine and the patient complained of soreness over the lumbar spines when they were percussed. No alteration was present in the sensation following the application of heat, cold or painful stimuli to the lower limbs. Deep sensation was normal and coordination was moderately good. Defecation and urination were normal. The other systems were clear. X ray examination revealed no abnormality and the serum had not reacted to the Wassermann test.

#### Induration of the Cervical Glands.

Dr. Hipsley also showed a patient who had been admitted to hospital on December 26, 1928, at the age of eleven months, suffering from swellings in the apex of each posterior triangle of the neck and in the carotid triangles. Many pustules had been present below the left ear and scattered furuncles on the left side of the lower part of the face and neck. Much surrounding œdema had been present and there had been no deep-seated fluctuation. Numerous furuncles of the face had been incised. After discharge in January, 1928, the patient had been readmitted on the following day with a recurrence of the swelling. Diarrhœa, vomiting and generalized urticaria had supervened and the patient had been well enough to be discharged on February 9, 1928. The patient had been readmitted on April 2, 1928, and on the following day erysipelas had made its appearance. A week later the cervical, axillary and inguinal glands had been considerably enlarged. Antistreptococcal serum had been given in doses of thirty cubic centimetres every second day for seven doses. For four weeks the child's condition had been very bad, but on the patient's discharge on June 1, 1928, the general condition had been excellent, although the glands were still enlarged.

#### Tumour of the Parotid.

Dr. F. C. ROGERS showed a child, aged five years, who had been admitted to hospital five weeks previously complaining of soreness and stiffness of the lower jaw of three months' duration. Swelling on the right side of the face had been present for about four weeks and the pain in the jaw had been somewhat severe for ten days. Prior to admission the swelling had been aspirated, but no pus had been found. On examination a firm fixed swelling had been discovered in the right parotid region, most pronounced and indurated about the angle of the mandible. Some thick yellow pus had been evacuated and had discharged from the mouth immediately afterwards. Although the X ray appearances had suggested the presence of myeloid sarcoma, the incision had healed with practically no further purulent discharge. The pathologists had reported that the pus was pneumococcal and about two weeks later the swelling had begun to subside and the patient had been able to open his mouth further. At this time the radiological appearances had been suggestive of an infective lesion. No reaction had been obtained to either the Wassermann or von Pirquet tests.

#### Injury to the Hand.

Dr. J. SHEDDEN DAVIS showed a child, aged eighteen months, whose left hand had been injured by the explosion of a "cracker." On examination a circular laceration had surrounded the base of the thumb which had been attached only by a dorsal skin flap and the long flexor tendon. The metacarpophalangeal joint had been opened. The ring finger over the two distal phalanges had been denuded of its soft parts. The thumb had been sutured and two glove drains had been inserted. The ring finger had been amputated through the proximal interphalangeal joint. The result was satisfactory.

#### Rickets.

Dr. E. H. M. STEPHEN showed a boy, aged twelve months, who was suffering from rickets. The father and mother were healthy; the mother had had no miscarriages. One child had been still-born, then a healthy child had been born, at the time of the meeting four years old, and finally the patient. The patient had been breast fed for one month. Then he had been given Benger's food only without any cod liver oil for five months. At six weeks of age the child had come to the clinic suffering from snuffles and an ulcerating rash on the buttocks which was reddish in colour. A sanious discharge had been present from the nostrils. Fissures had been present around the lower lip and a macular rash on the legs. The general condition had been moderately good. The Wassermann test had yielded a reaction. Two courses of "Kharsulphan" and one course of "Bismol" had been given, seven doses of 0.7 gramme of the former and five doses of one cubic centimetre of the latter. At twelve months of age the patient had been admitted suffering from lobar pneumonia on the right side. X ray examination of the chest had revealed an unresolved pneumonia and in addition an open safety pin had been discovered in the stomach. The pin had been passed safely a fortnight later. Dr. Stephen pointed out that the child had prominent parietal bosses and that his head was asymmetrical. Beading of the ribs was present. The child was being treated by means of ultra-violet rays, "Tricalcine" and cod liver oil.

#### Persistent Vomiting.

Dr. Stephen also showed a child, aged eight years, who suffered from persistent vomiting. The father was normal, but the mother was extremely "nervy." The child had suffered from diphtheria in 1924. From birth the child had vomited a certain amount of nearly every feeding (she had been fed on the breast). At the age of one year and nine months she had vomited anything solid, but had retained fluids. At the age of seven years she had suddenly become quite well and had not vomited anything for six weeks. She had then commenced to vomit solids again, but kept fluids down moderately well. The food was returned almost immediately. The child had not been "nervous" in any way. On examination no abnormality was evident; there was no wasting. For the



first few days in hospital the child had played about the ward and had not vomited. She had then begun to vomit immediately after feeding and still did so after every meal. An X ray examination had been made and no evidence of any lesion had been discovered. A moderately large gastric residue six hours after taking suggested to the radiographer a degree of pyloric stenosis. The urine was clear; it yielded no *Bacillus coli communis* on culture. Treatment had been by increasing doses of tincture of belladonna, by chloretone, tincture of iodine and gastric lavage. The child had lost weight during the previous week and during this time it had been isolated and more active treatment had been carried out.

#### Diabetes Mellitus.

Dr. M. J. Plomley showed a boy, aged four years, who had been admitted in December, 1927, suffering from *diabetes mellitus*. There were two other children in the family, one had died from diabetes and a nephew had died from the same disease. The patient had suffered from no other illnesses. At the beginning of December, 1927, the child's parents had noticed that he was suffering from enuresis and polydipsia. He had been restless in his sleep. His appetite had been normal. He had manifested no skin symptoms and his vision had been normal. He had also been losing weight. At about the time of the onset of these symptoms the patient had had a severe fright—he had been severely assaulted by a dog. On April 26, 1928, the child had been discharged on a diet of 1,280 calories with four units of "Insulin" twice a day. He had done well until June 7, 1928, when an alteration was made from double strength to half strength "Insulin." The child had been readmitted on June 12 in a collapsed state. He had vomited, had been very drowsy and sleepy and breathed very heavily. He had been reported as suffering from a cold five days before admission. On June 13 rhonchi had been present all over the chest, but the other systems had appeared normal. Twenty units of "Insulin" had been given and two hours later the blood sugar had been 0.39. Two further units of "Insulin" had been given at 12.30 p.m. and at 2.30 p.m.; the blood sugar had been 0.19. At 7 p.m. the urine had been sugar free, the child drowsy and the blood sugar 0.08. On June 14 the urine had been sugar free and the child had received a diet of five hundred calories. On this day he had complained of earache.

Dr. Plomley explained that the child had developed acute *otitis media* of the left ear and this had discharged freely on June 18. The diet had been increased to 870 calories and "Insulin" was being given three times a day in amounts varying from five to ten units. The child had developed acute *otitis media* of the right ear.

#### Hodgkin's Disease with Bone Changes.

Dr. Plomley also showed a patient who was suffering from Hodgkin's disease with bone changes. It is hoped that a report of this case will be published in full in a subsequent issue.

#### Celiac Disease.

Dr. LINDSAY DEY showed a girl who had been admitted to hospital on January 25, 1928, at the age of twenty months. According to the family history the father and mother were healthy and four other children were alive and well. The child had been breast fed for the first month and for the next nine months had received condensed milk, "Lactogen" and Benger's Food. During the previous eight months cow's milk and bread and butter had been given and for four months vegetables and meat. The child had always been thin from birth and it had been difficult to get her to take food at all. She had not vomited. She had sat up when eight months old and had cut thirteen teeth. She said only one word—"No." For the previous six months she had sweated profusely.

Examination on admission had revealed general wasting and distension of the abdomen; no masses had been palpable. The stools had been large, pale and offensive and had contained 30% fat. At birth the child had weighed 3.4 kilograms (seven and a half pounds) and on admission 4.6 kilograms (ten and one-eighth pounds). No reaction had occurred to the Wassermann test. The urine had

contained no cells, but *Staphylococcus aureus* had been grown on culture. X ray examination had revealed striation of the colon suggesting the presence of some disorder of metabolism.

Treatment had consisted in the restriction of the diet as far as fat was concerned and the giving of bananas. The patient had gained weight steadily and in two months had weighed 6.3 kilograms (fourteen pounds). She had been discharged on April 4, 1928, but had been readmitted on the following day on account of a relapse. Since readmission the patient had received three bananas a day, "Lactogen" without emulsion and a diet generally restrictive in fats. She was also receiving vegetables, fish, mince and raw meat juice. She was taking a mixture containing syrup of the iodide of iron and syrup of the compound phosphate of iron as well as "Ostelin." Dr. Dey said that the patient had fluctuated in regard to weight and that on the whole was not making satisfactory progress.

#### Congenital Jaundice.

Dr. Dey's second patient was a girl, aged six weeks, who was suffering from jaundice possibly due to congenital obliteration of the bile ducts. This report will be published in a subsequent issue.

#### Multiple Arthritis.

Dr. Dey also showed a girl, aged four years, who was suffering from multiple arthritis. According to the family history no relatives were similarly affected. The parents were Scotch and had brought the child to Australia in the hope that it would benefit from the change of climate. The illness had commenced two years previously with pronounced general symptoms of malaise, accompanied by painful swelling of the joints, especially the knees, ankles and those of the fingers. Slight improvement had occurred in the last six months, but otherwise the only change had been the production of a fixed deformity with which the child had arrived in Australia. No vomiting or diarrhoea had occurred and the patient had not suffered from sore throat. Her teeth were good.

At the time of admission on March 26, 1928, arthritis which was almost universal, had been present. Even the chest had been affected, so that respiration was almost entirely abdominal. The joints were thickened, tender and fixed in deformity; thus the foot was in a position of *talipes equinus*, the thigh was flexed at about an angle of 90°, the knees at an angle less than 90° from full flexion and the elbows at about 90°. Some ulnar deviation was present in the wrists and fingers and thumbs were flexed towards the palm. The neck was almost rigid. No glandular enlargement had been detected and the spleen had not been palpable. No reaction had been obtained to either the Wassermann or von Pirquet tests. No cells had been discovered in the urine, but *Bacillus coli communis* had been grown on culture. X ray examination of the bones revealed translucency and in the chest there could be seen a mottling suggestive of tuberculosis.

The child was being treated by *Bacillus coli* vaccine. She was receiving cod liver oil and iron (recently combined with gualacol) and Fowler's solution. Alkalies were being given for the bacilluria. The child was receiving massage and extension was being made to the lower limbs. Tenderness had largely left the joints. The spleen was not palpable. The patient could raise the right arm above the head and could lift the left arm to her mouth. The neck was much freer and the remainder of the spine was almost normal. The knees and hips had improved slightly.

#### MEDICO-POLITICAL.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on September 27, 1928, Dr. J. E. V. BARLING, the President, in the chair.

#### Election of Members to Federal Committee.

The President announced that only two nominations had been received for election of two members for the Federal

Committee of the British Medical Association in Australia. He therefore declared Dr. R. H. Todd and Dr. J. Adam Dick, C.M.G., duly elected members representing the New South Wales Branch.

#### Presentation of the Joseph Bancroft Memorial Medals.

Dr. Barling announced that he had been asked by the Council of the Queensland Branch of the British Medical Association to present the Joseph Bancroft Memorial Medal to Dr. J. L. McKelvey and to Professor J. C. Windeyer. Dr. McKelvey had been the first to deliver the Joseph Bancroft Memorial Lecture. He gave a short account of the life work of Joseph Bancroft.

Dr. McKelvey, in expressing his thanks for the medal, referred to the botanical work of Bancroft, more particularly in connexion with the isolation of the alkaloid duboisine, his work on the culture of wheat and his discoveries in parasitology, including that of the falaria which bore his name. He, the speaker, was very proud of the honour of having been the first to deliver the Memorial Lecture.

Professor Windeyer, in acknowledging his indebtedness to the Queensland Branch, spoke of the interest taken by Bancroft in obstetrical science. When Bancroft was practising in Brisbane, there was only one nurse engaged in obstetric work. Destructive operations were appallingly common and sepsis was rife. Bancroft contributed largely to the improvement of the existing state of affairs.

Mrs. Josephine Mackerras, the granddaughter of the late Joseph Bancroft, spoke a few words at the invitation of the President.

#### Staff Appointments at the Royal Prince Alfred Hospital.

DR. W. J. STEWART MCKAY moved:

That the members of the New South Wales Branch of the British Medical Association do not regard with favour the new rule made by the board of the Royal Prince Alfred Hospital which demands that every applicant for a position on the Royal Prince Alfred Hospital staff must be prepared to withdraw from other positions held by him on the staff of other public hospitals.

He stated that every institution had a right to pass by-laws in its own interests, but that no institution had the right to pass a by-law that would act detrimentally on other institutions. The Royal Prince Alfred Hospital was a charitable institution, but there was no charity in passing the new by-law. Dr. McKay spoke of the effects that would inevitably follow if this by-law were enforced. Young men appointed to the staff of the Royal Prince Alfred Hospital would have little opportunity of acquiring skill through practice unless they were allowed to occupy honorary positions on other hospitals. It would be detrimental to the interests of other institutions if the most eminent surgeons and physicians on the staff of the Royal Prince Alfred Hospital were prevented from giving their services to other hospitals.

The motion was seconded by Dr. J. W. Hoets. On being put to the meeting thirty-two members voted for and twelve against the motion. The President declared it carried.

### Obituary.

#### WALTER ANDREW LUKE.

WE are indebted to Dr. H. Cecil Colville for the following notes:

Walter Andrew Luke whose death occurred on September 19, 1928, was born at Sale, Victoria, in the year 1891. He was the son of Mr. and Mrs. Henry Alfred Luke, his father being the proprietor of the newspaper *Gippsland Mercury*.

He was educated at the Caulfield Grammar School and entered the Medical School of the University of Melbourne in 1912. He attended the Alfred Hospital Clinical School and on the completion of his course in 1917, became Resident Medical Officer at that institution, but the call of active service did not permit him to have more than a few valuable months of hospital experience and he enlisted in the Australian Imperial Force in January, 1918. While on active service he was attached to the 231st Field Ambulance of the British Forces and later became Regimental Medical Officer to the 44th Battalion, Australian Imperial Force. On his demobilization he returned to Australia in October, 1919, and immediately commenced practice at Omeo, Victoria, where he remained for two years. In October, 1921, he succeeded to the practice of the late Gordon McIvor at Box Hill, where he remained up to his death. In September of this year he decided to take a well-earned holiday which was to be spent in a motor tour of the East Gippsland district with his family. On his arrival at Omeo he was seized by an attack of pneumonia and after only a few days' illness he died at the scene of his earlier activities.

Andrew Luke was a man who endeared himself to all who were privileged to know him intimately; his was a somewhat reserved nature and it was on piercing that reserve that one was able to appreciate his true worth. As a medical man he upheld the best traditions of his profession; he displayed an unflinching courtesy towards his patients and spared no effort to achieve their welfare; his medical and surgical work was of a high character and he never failed to keep abreast of the latest developments in medical science. With the success of his practice assured, he was anxious to take any opportunity to improve the standard of his work and only a few weeks before his death he sought and obtained an appointment as Assistant Anaesthetist at the Alfred Hospital. During his years at Box Hill he not only built up a large and widely scattered practice from very small beginnings, but he gradually came to occupy an influential position in the affairs of the district. At the time of his death he was Municipal Officer of Health and President of the Box Hill Branch of the Returned Soldiers' Association. He leaves a widow and three young children to whom the sympathy of the profession is extended.

Dr. R. Hamilton Russell writes:

Walter Andrew Luke whose death from pneumonia at the age of thirty-seven years took place at Omeo, whither he had gone for a short holiday, was a general practitioner of the best type. Truly may we exclaim: "God moves in a mysterious way," when we see a man in the zenith of his usefulness and his manhood thus untimely stricken down.

"Andy" Luke was a splendid fellow; that he was a man greatly beloved by those who knew him best and among whom he worked, has been made abundantly evident in the manifestations of affection and grief displayed at Box Hill. I first came to know him as a very good student of medicine at the Alfred Hospital, where he subsequently served as my house surgeon; long before this, however, we had become close friends. His special talent lay in the direction of the applied sciences. He was, among other things, profoundly interested in wireless and was regarded in the "trade" as one of the leading amateur authorities on the subject. His wireless set, one of the best in the country, he made himself, and it contained several improvements of his own devising. His other great hobby was motoring and he was as expert in the care and driving of his car as he was with the wireless set. He was a great Nature lover, and above all he loved the high mountains; and during his student days nothing did he enjoy more than to set off in a tiny seven horse-power car with his mother on an expedition into the mountainous districts of Victoria. Which of this remarkable pair of motoring chums displayed the greater courage might be matter for debate, but it speaks volumes for his skill that no serious accident ever befel.

As a practitioner of medicine he was an example of what a general practitioner should be; he loved his work and fulfilled the duties of his position with conscientious devotion. His too short life was packed with work well done; more than this no man can do.

## WILLIAM ALEXANDER TEAO LIND.

By the death of Dr. William Alexander Teao Lind, which occurred suddenly on October 6, 1928, at the age of forty-six years, the medical profession has lost one of its most promising members and the Lunacy Department of Victoria one of its most distinguished officers.

William Alexander Teao Lind, who lived at 18, Walpole Street, Kew, Victoria, was the son of Mr. William Alexander Teao Lind, retired bank manager, of Upper Beaconsfield, Victoria. He entered the Melbourne University in 1900 and graduated M.B., B.S. in 1905. He was appointed Resident Medical Officer at the Alfred Hospital, Melbourne, and, after remaining there for two years, commenced practice in Bairnsdale, Victoria.

In 1907 he entered the Lunacy Department, Victoria, as Medical Officer. In 1911 he obtained leave of absence and travelled to England and the Continent for further study in the pathology of mental diseases. He spent a considerable time in the London County Council Laboratories under the late Frederick Mott.

On his return to Victoria in 1913 William Alexander Teao Lind was appointed Pathologist to the Lunacy Department, a position he filled with unabated enthusiasm until his death. He established and controlled the bacteriological work of his department and was lecturer for the University of Melbourne in the pathology of insanity for fourteen years.

He delivered the first series of lectures to the Victorian Branch of the British Medical Association under the Beattie-Smith endowment and he carried on an extensive and valuable research work over a period of years, the results of which formed the subject matter of numerous contributions to THE MEDICAL JOURNAL OF AUSTRALIA, and received favourable notice in England and America.

The following is a list of the titles of some of his papers: "Brain Weight in Congenital Mental Deficiency," "The Syphilitic Factor in Insanity," "Insanities Other Than General Paralysis and Taboparesis Possibly Due to Undetected Syphilis," "A Family of Occult Syphilis," "Sex Irregularities of Children and Youth," "Remarks on the Morbid Anatomy of Insanity," "Etiology of Congenital Mental Deficiency," "The Diagnosis of Juvenile General Paralysis," "The Physical Basis of Insanity," "Observations on Mongolian Idiocy," "Venereal Disease and the Abnormal Mind," "Criminology as a Branch of Medicine," "Epilepsy," "Conclusions Based on the Clinical and Post Mortem Study of Epilepsy."

A few months before his death W. A. T. Lind submitted an original thesis on congenital insanity and teratology for the degree of doctor of medicine of the Melbourne University. It was after his death that his widow was officially informed that the distinction had been obtained.

The examiner in his report refers to his work in the following terms.

"I am not aware of the existence of any such exact and detailed analysis of *post mortem* findings in cases of congenital mental defect as are provided by Mr. Lind in his thesis which contains reports of 161 cases. I am of opinion that this is a sound and useful piece of work. The ability displayed by the candidate is of high standard."

At the outbreak of the Great War W. A. T. Lind volunteered for active service, but his services were not accepted for medical reasons; it is known that he carried on his active and arduous duties in spite of physical handicaps which eventually led to his premature death.

During a period of many years William Alexander Teao Lind has been a regular contributor to this journal. Many of the reviews on books dealing with the pathology of mental disease, with nature, aetiology and classification of insanity and with certain problems in psychology have been written by him. The readiness with which he

responded to our requests, the philosophic and skilled manner in which he dealt with his problems and the reliability of his opinions and judgments have placed us under a deep debt of gratitude to him. The journal has suffered severely by his death.

William Alexander Teao Lind was an ideal family man and endeared himself to a large circle of friends by his warm heartedness and integrity. His chief interest, apart from his family and his work, lay in free masonry. He leaves a widow and a son and daughter to mourn his loss. He combined in his personality the qualities of a fine man, a distinguished practitioner and an able and conscientious public servant.



Dr. William Alexander Teao Lind joined the staff of the Lunacy Department of Victoria as a junior medical officer on November 28, 1907. He commenced his service in the Hospital for the Insane, Kew, and quickly

demonstrated the fact that he was intensely interested in psychiatry and more particularly the scientific side of the subject. With a view to taking up the pathological work of this department, he was granted special leave in July, 1911, and he proceeded to England and Germany, devoting himself for the most part to work under Sir Frederick Mott (then Dr. Mott), Pathologist to the London County Council Asylums Board. On his return, Dr. Lind was appointed as pathologist to the department; the position which he occupied was subsequently classified as that of pathologist and neurologist. He was thus exempt from the ordinary provisions of the public service and it was only in 1925 that he became a permanent officer of the service. This anomaly arose from the belief that it was necessary to have an officer outside the department who should be responsible for the making of *post mortem* examinations on the bodies of those dying



in the metropolitan hospitals. However, the conduct of this work by Dr. Lind has gone far to dispel such an idea and Dr. Lind by his honesty of intention and purpose showed that this was work which could be well trusted to a member of the Lunacy Department.

His administration and investigations in the laboratories at Kew and Mont Park stamped him as a scientific worker of the highest order. Here routine work was used by him to build up statistical records of the very highest value and as a result his communications to the medical press, particularly to THE MEDICAL JOURNAL OF AUSTRALIA, were frequent and illuminating.

In 1925 he was chosen to be the first Beattie Smith lecturer and he gave a series of three lectures in the Hall of the Medical Society of Victoria on "Insanity," making special reference to causation and treatment. These lectures were published in THE MEDICAL JOURNAL OF AUSTRALIA, so that they reached a very much wider audience than actually attended their delivery, a fortunate fact, as the lectures themselves were cast in such a high plane of thought and betrayed so much care in preparation that it was fitting that they should carry throughout the continent of Australia the views of a man whose great interest in his work had enabled him to produce a series of lectures that were both inspiring and instructive.

Shortly before his death Dr. Lind had presented a thesis for his M.D. degree, embodying years of work on the pathology of insanity. The thesis was accepted, but unfortunately the notification of that fact was never received by Dr. Lind owing to his very sudden and unexpected death.

Those of his colleagues who have worked alongside him will bear testimony to the sincerity of Dr. Lind's work, its care and thoroughness. It is not too much to say that the Lunacy Department of Victoria—nay, one may say the whole of the medical profession of Australia—has sustained in Dr. Lind's premature demise a severe loss, one which will not be easily replaced.

W.E.J.

#### WILLIAM HENRY DAVIES.

WE announce with regret the death of Dr. William Henry Davies which occurred at Ballarat, Victoria, on October 23, 1928.

#### STANHOPE HASTINGS MACCULLOCH.

WE regret to announce the death of Dr. Stanhope Hastings MacCulloch which occurred at Sydney on October 25, 1928.

#### JOHN JOSEPH BRENNAN.

WE regret to announce the death of Dr. John Joseph Brennan which occurred at Sydney on October 26, 1928.

#### HARRY JOHN CLAYTON.

WE announce with regret the death of Dr. Harry John Clayton which occurred at Bulli, New South Wales, on October 31, 1928.

### Medical Societies.

#### THE MELBOURNE HOSPITAL CLINICAL SOCIETY.

A MEETING OF THE MELBOURNE HOSPITAL CLINICAL SOCIETY was held at the Melbourne Hospital on July 27, 1928, Dr. H. HUME TURNBULL in the chair.

#### Anæmia with Retinitis.

Dr. F. B. LAWTON showed a female patient, aged twenty-eight years, who had been admitted to hospital on June 8, 1928.

The family history was unimportant. The patient had one child, aged twelve years; it was healthy. The patient's health had been good until the birth of the child twelve years previously. Labour had been difficult and leucorrhœa had been present ever since. The patient had been anæmic for twelve years and subject to attacks of morning headache and vomiting. The headache occurred behind the eyes. The patient had also had giddy turns for twelve years.

The present illness had begun with the appearance of specks in front of the eyes for one month before admission. Failing sight had been noticed in the right eye one week later. Twelve days before admission the patient had awakened in the morning to find

that she was blind. The sight had been normal on the previous night. For one month before admission there had been severe headache above and behind the right eye. On admission she had said that the sight in the left eye had returned to some extent and the headache was improving, but that the right eye was still blind. The bowels were constive. There had been amenorrhœa for four years and before that her periods had been irregular.

On examination the patient appeared to be very anæmic, but beyond that the physical examination disclosed nothing of note. Dr. Lawton said that the examination of the eyes would be dealt with by Dr. Mitchell.

Several special examinations had been made. Lumbar puncture had yielded seven to ten cubic centimetres of clear fluid, possibly under slightly increased pressure. No increase of globulin had been found in the cerebro-spinal



fluid. The cells had numbered twenty-eight lymphocytes per cubic centimetre. The cerebro-spinal fluid had yielded no reaction to the Wassermann test.

At the time of admission the erythrocytes had numbered 3,500,000 per cubic millimetre. On July 10, 1928, they had numbered 4,200,000. The hæmoglobin value had been 60% and the leucocytes had numbered 12,350 per cubic millimetre. Examination of the blood film revealed secondary anaemia. The blood serum yielded a strongly positive result to the Wassermann test.

The nose, throat and sinuses had been examined by Mr. Scantlebury, who had advised tonsillectomy to be performed at a later date. No evidence of infection in sinuses had been found. X ray examination had revealed nothing abnormal. The *sella turcica* was small and no absorption of the clinoid processes had occurred.

Dr. Chambers had examined the pelvis and had discovered nothing abnormal.

The patient had vomited every day until June 18.

The treatment had then been begun and had been continued except on occasional days when the patient had vomited. Treatment consisted of inunctions of mercury and increasing doses of potassium iodide up to one gramme (thirty grains) three times a day by mouth with arsenic. Deep subcutaneous injection of 0.05 gramme of "Novarsenobillon" had been followed by increasing rectal injections till July 23, when she had had 0.15 gramme intravenously. The diet consisted of meat, 225 grammes of liver (half a pound), fresh fruit and vegetables and a small amount of fat and carbohydrate.

In regard to progress gradual improvement was in sight, but it had been very poor till June 27, when her sight had returned and the patient had been able to read print. Since then the sight had continued to improve.

DR. LEONARD MITCHELL stated that he had first seen the patient on June 8, 1928, when there had been oedema of the whole retina in the right eye. No details whatever could be made out; the left eye had manifested slightly less oedema, but the only detail visible had been a hazy outline of the optic disc. In this eye there had been many vitreous opacities and what appeared to be a few hæmorrhages.

Ten days later the condition had manifested definite signs of subsiding and it had been possible to outline the right disc. Four days later he had been able to see the vessels on the right side and many large and small hæmorrhages had been widely scattered in this eye. The left eye had manifested no hæmorrhages. The vision had then been confined to the counting of fingers at thirty centimetres (one foot).

Dr. Mitchell said the condition thereafter had cleared up steadily and the hæmorrhages had almost completely disappeared, while the disc and retina generally were approaching normality. The vision on July 27, 1928, was  $\frac{2}{24}$  in either eye and the patient could read Jaeger 3 type.

After outlining the microscopical changes in retinal oedema, Dr. Mitchell stated that in his experience the extent of the oedema was unique and he had failed to find any record of so extensive an involvement.

#### Oedema of the Leg.

DR. KEITH D. FAIRLEY showed a female patient, aged fifty-one years, who had reported in October, 1927, that in October, 1924, the left foot and later the leg as far as the middle of the thigh had commenced to swell. At the start it had been apparently a simple oedema which gradually increased and later there had been an overgrowth of connective tissue and thickening of the skin.

In September, 1927, the right foot and leg had begun to swell. The patient had been out of Victoria only once on a visit to Sydney over thirty years before.

From 1913 to 1920 she had been confined to her bed or chair by severe "neuritis"—terrific pains in any part of the body, not lightning-like—which caused her to cry out and made her afraid for anyone to approach her bed. At this time both hands had been greatly swollen and her fingers had apparently been more or less fixed in flexion. Medical records of this illness were not available,

but no injections had been given in treatment. Her husband had died at the age of fifty-four years with general paralysis of the insane. He had contracted syphilis at the age of twenty-one years and had married six years later. Six months before his death his blood and cerebro-spinal fluid had yielded a strongly positive response to the Wassermann test. Apart from the disability with her leg, the patient's general health and strength were excellent. The only symptom of note was recent frequency of micturition two or three times a night.

Examination revealed nothing abnormal in the cardiovascular and respiratory systems. There was one gland the size of a walnut in the right groin; no glands were palpable in the left groin. A condition of obvious elephantiasis was present in the left leg and foot, the swelling extending half way between the knee and the groin. There were many scarred thickenings in the skin from the knee to the ankle. Microscopically one of these showed perivascular foci of small round cells, thickening of the intima of blood vessels and much fibrosis and oedema of the subcutaneous tissues. Tissue paper scars were present just below the knees. The left leg pitted slightly on considerable pressure, the right foot and leg showed pitting with ordinary pressure.

The only abnormalities detected on examination of the nervous system were the absence of the knee and ankle jerks and diminished sensation to pin prick and touch over the lower half of the left leg and foot probably due to the thickening of the skin in this area.

X ray examination of the foot revealed no bony changes save a spur on the *os calcis* and cuboid.

No *filaria diurna* or *nocturna* had been found in the blood, though even in elephantiasis due to filarial infection it was frequently observed that these parasites had disappeared from the peripheral blood at this stage of the disease.

The eosinophile cells numbered 1% of the total number of leucocytes. The blood yielded a strongly positive response to the Wassermann test.

Antisyphilitic treatment had been commenced in November, 1927. Since that time the patient had received two courses of "Novarsenobillon" injected intravenously and one course of "Muthanol" given intramuscularly, while she had been continuously taking either potassium iodide up to one gramme (thirty grains) thrice daily *per os* or both mercury and potassium iodide *per os*.

In December, 1927, it had been observed that the left leg pitted easily on pressure and varied in size at the end of the day and after a night's rest.

Some reduction in the size of both legs had occurred, presumably as the result of treatment. The measurements shown in the accompanying table demonstrated the extent of the improvement.

Site.	Left Leg (in Inches).		Right Leg (in Inches).	
	November, 1927.	July, 1928.	November, 1927.	July, 1928.
Base leg toe . . . .	14	13½	10	9½
Midway up foot . . . .	15	14	11	10
Ankle . . . . .	15	14½	11½	10½
Two inches above ankle . .	17	15	11½	10½
Nine inches above ankle . .	23½	20½	15½	13½
Knee . . . . .	18½	16½	17	15½
Six inches above patella . .	22½	19½	20½	19½

The patient had observed that massage temporarily improved the condition of the leg, but owing to difficulties of transport to the hospital and her refusal to enter the wards for treatment skilled massage had not been given. For the same reason, the daily injections of "Fibrolysin" advised by some authorities for elephantiasis had not been possible. In the near future the effect of "Novasural" injections would be observed.

Dr. Fairley said that elephantiasis might be congenital or acquired. In the tropics filariasis was the usual cause of the condition. In temperate zones the condition affected

females more than males and any cause of chronic or recurring lymphangitis, for example syphilis, chronic gonorrhoea, varicose ulcers *et cetera* might be the aetiological factor. It was also seen in some patients following removal of the regional lymphatic glands in operations for malignant disease.

The patient was shown for two reasons: (i) Would surgery offer any hope of more improvement than present methods of treatment? (ii) To provoke discussion as to whether there was any sign by which lymphatic oedema might in the early stages be differentiated from oedema due to more common causes. In the later stages the overgrowth of connective tissues made the production of pitting on pressure more difficult in lymphatic oedema, but in the early stages (as is well illustrated in the right leg of this patient) Dr. Fairley had found no special sign of help in this connexion.

(To be continued.)

### Books Received.

PRACTICAL SURGERY OF THE ABDOMEN, by George H. Jolly, M.D.; with a Foreword by W. Wayne Babcock, M.D.; Volumes I and II; 1928. Philadelphia: F. A. Davis Company. Royal 8vo., pp. 1302, with illustrations. Price: \$16.00 net.

CANCER AND CANCER RESEARCH: A SERIES OF ARTICLES FOR THE LAY PUBLIC: Compiled by a Scientific Committee of the Liverpool Medical Research Organization; 1928. Manchester: Sherratt and Hughes. Post 8vo., pp. 75. Price: 1s. 6d. net.

REQUISITES AND METHODS IN SURGERY FOR THE USE OF STUDENTS, HOUSE SURGEONS AND GENERAL PRACTITIONERS, by Charles W. Cathcart, C.B.E., M.A., M.B., C.M. (Ed.), F.R.C.S. (England and Edinburgh), and J. N. Jackson Hartley, O.B.E., M.B. (Ed.), F.R.C.S. (England and Edinburgh); 1928. Edinburgh: Oliver and Boyd; Sydney: Angus and Robertson, Limited. Crown 8vo., pp. 476, with illustrations. Price: 15s. net.

DISEASES OF THE EAR, NOSE AND THROAT: MEDICAL AND SURGICAL, by Wendell Christopher Phillips, M.D.; Seventh Revised and Enlarged Edition; 1928, Philadelphia: F. A. Davis Company. Royal 8vo., pp. 942, with illustrations. Price: \$9.00 net.

### Diary for the Month.

- Nov. 13.—Tasmanian Branch, B.M.A.: Branch.
- Nov. 13.—New South Wales Branch, B.M.A.: Ethics Committee.
- Nov. 14.—Victorian Branch, B.M.A.: Branch.
- Nov. 15.—New South Wales Branch, B.M.A.: Clinical Meeting.
- Nov. 16.—Eastern Suburbs Medical Association, New South Wales.
- Nov. 19.—New South Wales Branch, B.M.A.: Organization and Science Committee.
- Nov. 20.—Tasmanian Branch, B.M.A.: Council.
- Nov. 20.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
- Nov. 21.—Western Australian Branch, B.M.A.: Branch.
- Nov. 21.—Central Northern Medical Association, New South Wales.
- Nov. 21.—Section of Obstetrics and Gynaecology, New South Wales Branch, B.M.A.
- Nov. 24.—Queensland Branch, B.M.A.: Council.
- Nov. 27.—Illawarra Suburbs Medical Association, New South Wales.
- Nov. 27.—New South Wales Branch, B.M.A.: Medical Politics Committee.

### Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xvi.

COMMONWEALTH OF AUSTRALIA: Medical Officer.  
REPATRIATION COMMISSION, MELBOURNE: Junior Resident Medical Officer.

ROYAL ALEXANDRA HOSPITAL FOR CHILDREN, CAMPERDOWN, SYDNEY: Honorary Assistant, Honorary Relieving Assistant Surgeons.

WOMEN'S HOSPITAL, CROWN STREET, SYDNEY: Honorary Director, Biochemist.

### Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. Marrickville United Friendly Societies' Dispensary. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	All Contract Practice Appointments in South Australia. Booleroo Centre Medical Club.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Medical practitioners are requested not to apply for appointments to position at the Hobart General Hospital, Tasmania, without first having communicated with the Editor of THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales.

### Editorial Notices.

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